

Bill Edge's

ELECTRONIC AGENCIES

115-117 Parramatta Road (Cnr Lloyd George Ave)
Concord 2137 Phone (02) 745 3077 (2 lines)
Mail orders: PO Box 185 Concord 2137



1982 CATALOGUE

of products for the electronics enthusiast

Premier edition

50c

We are the kit specialists —just a few of our more popular kits



Musicolour IV

The ultimate lighting controller. Combines a brand new four channel version of the famous EA Musicolour sound-to-light effect with a four channel chaser. This new Musicolour has a host of features rarely seen even on expensive commercial units: • Front panel LED display • four different chaser patterns • auto and manual reverse chase • Sound-triggered chase • built-in electret microphone • Safe, opto-isolated circuitry. And just look at the price!

KE3025.....\$89.90



TUNE YOUR CAR!

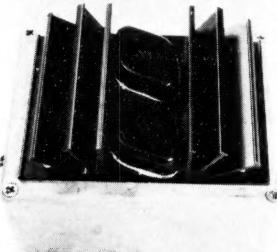
Digital Engine Analyser

A car that's in top tune saves you money. Keeping your car in tune is easy with this kit. Designed by EA, the Analyser has a bright 4 digit LED display and measures engine RPM, dwell and battery voltage on any 4, 6 or 8 cylinder engine. It's a lot easier than peering at a flickering meter needle while you're trying to adjust your idle screw. See EA October 1980.

KE1775.....

\$53.50

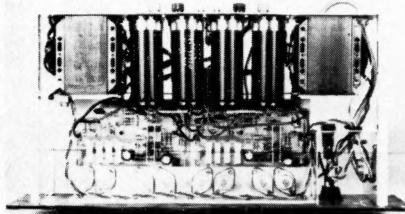
Transistor Assisted Ignition



The modern alternative to the ancient Kettering System and unreliable CDI ignition systems. Connected to your car's ignition, the TAI gives you maximum dwell extension and eliminates the effects of contact bounce—at all revs. The result? Your car runs more smoothly—especially at higher revs and stays in tune much longer as your points are no longer carrying the full ignition current. Easy to build and install, the Electronic Agencies kit includes the specified diecast box (not a cheap leak-prone folded case) and all parts as specified in the original article in November 1979 EA.

KE1825.....

\$35.00



ETI5000 Power amp

Fantastic quality—fantastic looks! This great new power amplifier from ETI thrashes virtually anything on the market—including many imported commercial amps selling for four or five times the price! Look at these specs:

- Output 100W RMS per channel into 8 ohms
- Signal-to-noise ratio 116dB
- Distortion less than 0.001% at 1kHz and full output

Features MOSFET output stage for low TIM, incredible slew rate and extreme thermal reliability and ruggedness. Listening tests with this amplifier have demonstrated that it surpasses even the best of conventional amplifiers in low fatigue, high definition audio. This kit includes the deluxe cast front panel heatsink and black anodized case.

KE5050.....

See page 5 for details of the MOSFET module alone.

\$295

& here's why Electronic Agencies' kits are so popular!

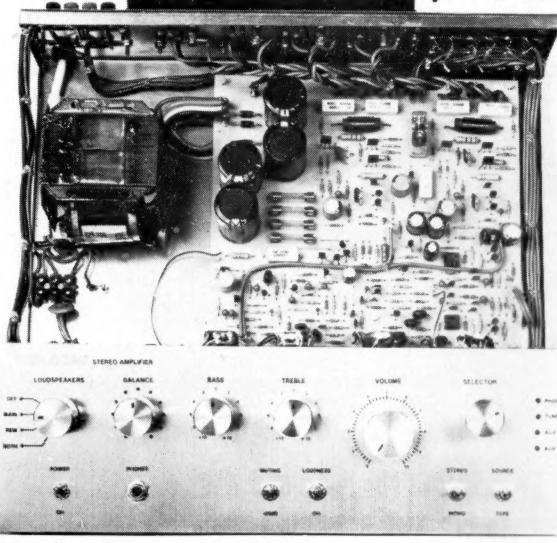
- ★ All parts as per original design
- ★ No substitutions without the approval of the magazine
- ★ Fibreglass PC boards
- ★ 7 day satisfaction guarantee
- ★ All special parts available separately

Playmaster MOSFET Stereo Amplifier

This is the build-it-yourself hi-fi amp that we've all been waiting for. Designed by Electronics Australia (see their January 1981 issue). Performance is superb—50W RMS per channel into 8 ohms (both channels driven); 75dB signal-to-noise on phono; Flat frequency response from 25Hz to 20kHz ±1dB. And the Electronic Agencies kit doesn't substitute parts: it uses the recommended Ferguson transformer for full 50W output and reduced hum. All other parts are as specified by EA. Don't buy cheaper kits that don't have these features—why sacrifice performance for a few dollars?

KE4180...

\$169



ETI15000 METAL DETECTOR

The performance of a \$500 metal detector—for \$199! This is a fully discriminating VLF T/R instrument (yes! the same principle as those expensive American ones) with ground balance. Control facilities are comprehensive—including an 'auto-tune' button. The kit includes all parts including a fully built search head and handle assembly and special meter and case.

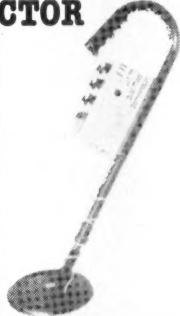
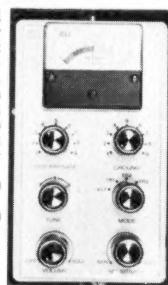
KE1460.....\$199.00

KE9260 Search head and handle only.....\$89.00

See ETI December 1980

See ETI January/February 1981

**EQUIVALENT
TO \$500 units**



ETI Series 4000 and Peerless Speaker Kits

These lead our extensive range of kit speakers. Top quality cabinetry combined with top quality drivers from two of the world's leading speaker manufacturers. See pages 12-17 for our full speaker range.

COMING SOON
ETI5000 Preamp, Tuner
and equaliser
See our regular ads for
details and prices



Thank you

We couldn't have put this catalogue together without the help of our suppliers — for information, illustrations and great products.

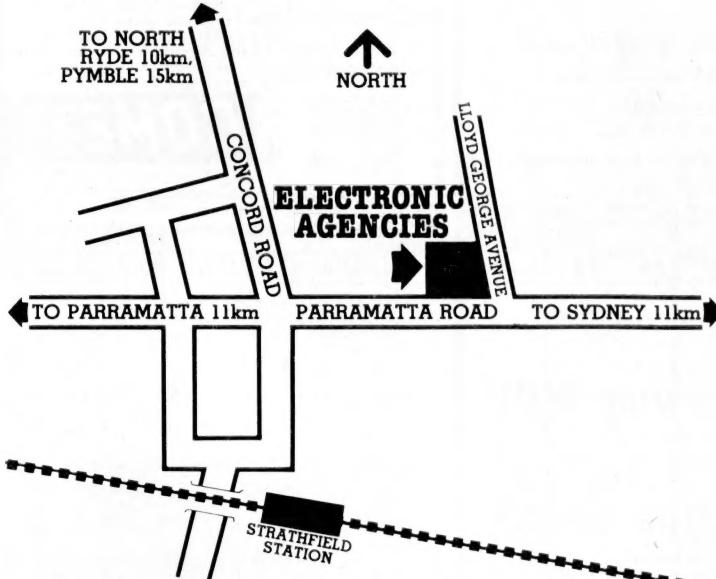
Thank you to:
Adaptive Electronics
Adcola
A & R Soanar
Arista
Austenna
A.W.A.
Ballarat Electronic Services
C & K Switches
CRC
R.H. Cunningham
Elmeasco
Ferguson Transformers
G.R.D Group
Hanimex

Hills
Hitachi
I.F.T.A.
Matson
Paul's
Plessey
Raimar
Scope Laboratories
S.I. Security
Texas Instruments
Union Carbide
University Graham
Watkin Wynne

We'd also like to particularly thank the editors and staff of Electronics Australia and Electronics Today International for all their help with photos of projects, advice and for producing such great magazines.

Photos of 'Electronics Australia' projects are reproduced by arrangement with Magazine Promotions Pty. Ltd.

Photos of 'Electronics Today International' projects are reproduced by arrangement with Murray Publishers Pty. Ltd.



WE'RE CLOSER THAN YOU THINK!

Customer information

Trading hours

We are open from 9am to 5.30pm Monday to Friday; 9am to 12 noon Saturday and 10am to 2pm Sunday.

Returns

Goods may be returned for a full refund within seven days of purchase. Goods must be in original packing and in as new condition. The sales docket must be presented. Returns cannot be accepted on semiconductors, valves, books or computer software. For all returns the freight charge is the customer's responsibility.

Guarantees

All our products are brand new and carry a three month guarantee (unless otherwise stated). In some cases the manufacturer gives a guarantee of up to 12 months. All sales dockets must be presented when making a guarantee claim.

Kits

All components in our kits are guaranteed new and carry a full three months warranty from us. Occasionally we must substitute parts for those originally specified, but this is done only with the approval of the kit designer. Most of our kits are put together from articles in the major electronics magazines: EA, ETI and Hobby Electronics. We therefore cannot guarantee that each kit will work exactly as specified in the original article. However, in most cases we actually build the kits before release, and iron out any bugs before they go on sale.

If you do have trouble getting a kit to work, you can usually get friendly advice from the magazine that originally published the design (see the individual magazines for details).

If, once you get your kit home, you feel that it's a little difficult for you to tackle, it can be returned within seven days for a full refund (provided you haven't started construction). See 'Returns' for details.

Sales to resellers

We welcome sales to resellers having trouble obtaining small quantities of certain items, but for larger purchases we recommend you contact Bill Edge Electronics on (02) 745 3077.

Sales Tax exemption

In most cases we can deduct sales tax from certain items—provided an official order is presented quoting a sales tax number; also on orders from Government Departments or educational institutions. In all cases the official order must clearly state the basis of the tax exemption and be signed.

Mail order customers

You will find an easy to follow mail order form on the back of this page. With every mail order we include a mail order form to make your buying as simple as possible. Please use our catalogue numbers when ordering to minimise error in assembly of your order.

Damaged goods

If your goods arrive damaged and it is ob-

viously the fault of the carrier (Australia Post, Railways, Comet etc.) then you must file your claim directly with the carrier concerned. Great effort is made in the packing and handling of mail orders to ensure that this situation rarely occurs.

Prices

As you are probably aware prices never remain the same. As this catalogue goes to press on 7th August 1981 it is nearly a month old before it hits the streets. Consequently all prices are subject to change without notice.

Payments for mail orders

Payments for mail orders may be made by cheque, money order or Bankcard. COD orders will be accepted with a \$5 deposit and \$3 extra. See mail order form overleaf for details.

Credit accounts

30 day credit accounts are only available to Government Departments, Educational institutions etc. provided an official order is received.

Credit accounts are available to public companies provided they meet our application requirements.

Product range

This catalogue has endeavoured to give our full product range. Because of the uncertainty of supply we cannot guarantee that all products are in stock. Also some products, for various reasons, may have to be discontinued. We reserve the right to substitute equivalent products where a listed

Dear Customer,

Thank you for reading our very first catalogue.

As you will notice this is a pure electronics catalogue and we've concentrated our product range on electronic kits, where we feel the buyer gets better value for his dollar than with a fully manufactured item.

Another area we specialise in is top quality brand name speakers—like Philips, Foster, Coral, Motorola and Peerless.

Naturally, a very wide selection of general electronic components is carried at excellent prices. All special kit components like front panels and PC boards are available separately.

We hope you will keep and use this catalogue for all your electronic requirements as all our staff and myself are very enthusiastic to give you, our customer, the best service possible at the most reasonable price.

Thank you,

Bill Edge

Bill Edge ROCP

product is unavailable for whatever reason.

New products

We try to keep up with the latest developments in this industry and hence this catalogue will not be able to show new products as they appear. We will try to keep you, our customers, informed through our advertisements in EA, ETI and the general media.

We would welcome any advice or comments on new products you would like us to stock.

Errors, omissions and changes

This catalogue contains a huge amount of information about thousands of products it is possible that there are errors or omissions we haven't spotted. All data given is from manufacturers published specifications—always subject to change without notice. We cannot, therefore, accept any responsibility for errors. If you would like further details on any of our products, please don't hesitate to phone or write us.

bankcard
welcome here

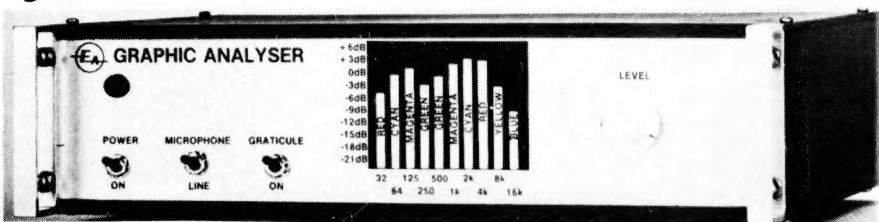
Kits—audio and mail order form

EA Graphic Analyser

Colour your music. A great way to check your sound system frequency response: with a full colour TV display. Displays frequency response of your system in octave bands in different colours on your TV screen. Lets you adjust furnishings, speaker positions and equalisers for optimum sound. Once you've got your system sounding right, the unit lets you monitor the level of your music signals—so you're having overload problems, the Graphic Analyser can pinpoint the frequency to help you find the cause. And apart from all this—it makes a great sound-to-light display! The kit includes all parts to build the analyser, which also includes a pink noise source. See EA March 1981 for a full description.

KE4150.....

\$119.00



Bill Edge's ELECTRONIC AGENCIES

115 PARRAMATTA RD., CONCORD 2137
P.O. Box 185
Ph. (02) 745 3077

MAIL ORDER FORM

Trading Hours

Mon-Fri — 9.00 a.m.-5.30 p.m.
Saturday — 9.00 a.m.-12 noon
Sunday — 10.00 a.m.-2 p.m.

FROM:

(Please Print)

Name

Address

Postcode

DELIVERY INSTRUCTIONS

<input type="checkbox"/> Mail	<input type="checkbox"/> Certified Mail 60c extra
<input type="checkbox"/> Airmail (Add \$3 to P&P value)	<input type="checkbox"/> Comet Road Freight \$8.00
<input type="checkbox"/> Registered Mail \$2.50 extra	Anywhere in Australia
<input type="checkbox"/> C.O.D. only by mail \$3.00 extra. \$5.00 dep.	<input type="checkbox"/> Comet Insurance \$1 per \$100 value

Have you purchased by mail order before with us Yes No

COMET

Please Note. Heavy and bulky items cannot be sent by mail. Comet will not deliver to a P.O. Box.

Cat. No.	Qty.	Description	\$	¢	OFFICE USE ONLY			Back Order Advice			
					\$	¢	Supplied	Remarks	Qty.	Delay	Desp.

Sub-Total

Mail Charges

\$5 — \$9.99 \$1.00

\$10 — \$24.99 \$2.00

\$25 — \$49.99 \$3.00

\$50 — \$99.99 \$4.00

\$100 or more — \$5.50

Airmail Extra

**BELOW COST
ROAD FREIGHT**

Credit Note issued

Amount

No.

Enter Amount enclosed

- Money Order
- Cheque
- C.O.D. include \$5 dep.
- Cash - Registered mail only
- Credit Note enclosed. No.

Amount

Bankcard. Signature
No.

Exp.

Items under \$10.00 not back ordered. A Credit Note will be issued. Please reorder in a month's time.

If you have changed your address since
last ordering please print here.

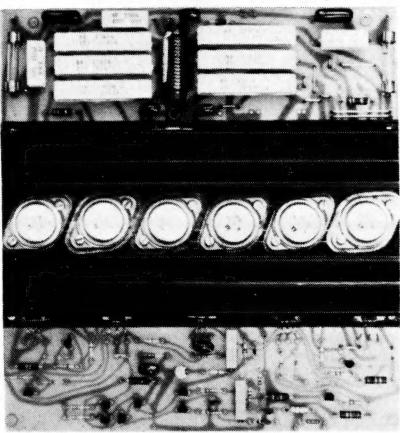
Name

Address

Postcode

Thank you for your order. We trust you are pleased with our service. If not we would like to hear.

300 Watts of music power!



For professional sound reinforcement, musician or home hi-fi, this one really delivers the power. A superbly designed power amp module that only needs a simple power supply, case, connectors and hardware to be up and running—at a fraction of the price of commercial units. See EA June 1980.

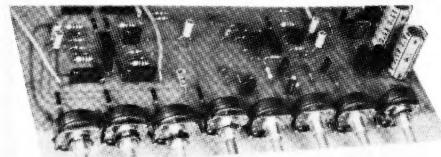
This kit includes all parts to build the module. Additional kits below provide the power supply and speaker protector. Team this with one of our 19" rack cases (see page 25), a Sprite fan and some hardware, and you've got a high performance 300W mono amp ideal for any use. Specs are: Output power—300W RMS into 4 ohms (200W into 8 ohms); Frequency response—20Hz to 20kHz +0 -0.4dB; Hum and Noise—95dB below 100W; Distortion below 0.2% at full output.

KE6010 Module kit complete.....\$85.00
KE6020 Power supply/transformer.....\$52.95
KE6030 Speaker protector kit.....\$12.95
KE9250 Thermal cutout to suit.....\$8.95
KE9010 75mm Sprite fan.....\$29.95

Mixer/Preamp 467

The ideal companion for any of the power amp modules on this page. Mixes up to 4 inputs (high and low level) with individual level controls. Includes high performance 3 band tone controls making it ideal for musical instrument use. Kit comes without a case so that you can build it in with a power amplifier if you wish. See page 25 for suitable cases. Operates from 2x12-15V AC (usually available from power amp supply, otherwise use Cat. ME2839 transformer \$10.95). ETI July 1980.

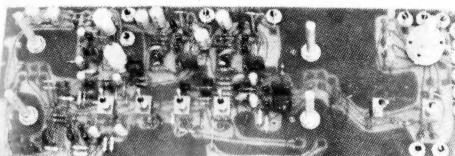
KE1400.....\$29.50



Preamp/control unit

Designed as the heart of the ETI4000 stereo amplifier, this is a complete high performance stereo hi-fi preamp. Features 4 inputs (1 phono, 3 line level), filters, mute, loudness, stereo/mono and tape monitor switches; bass, treble, volume and balance controls. It's ideal for use with any of the power amp modules on this page to use them as a top quality hi-fi system. All parts are mounted on a single PC board, so it's extremely easy to build (unlike most!) and mounts in any of our three rack mount case (see page 25) with or without power amp modules. See ETI June 1979 for full details and performance specifications.

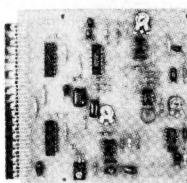
KE1975.....\$47.90



ETI471

If you've seen LED level displays before, don't confuse them with this one. Designed as part of the ETI5000 preamp, this brand new design displays both average and peak level—essential for really accurate monitoring of recording and signal levels. Suits any preamplifier (note that two are needed for stereo). See ETI June 1981.

KE4500.....\$27.50

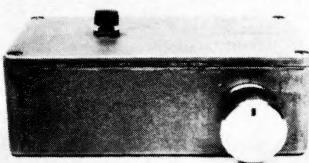


ETI 458 LED level meter

Similar in function to the KE4500 meter, but simpler and cheaper. For applications that don't need both peak and average displays or the 60dB range of the KE4500. Operates on line levels, needs 15-32V DC supply. PCB and parts only. ETI1438, December 1975/30 Audio Projects. KE1900.....\$11.95

Build your own FUZZBOX

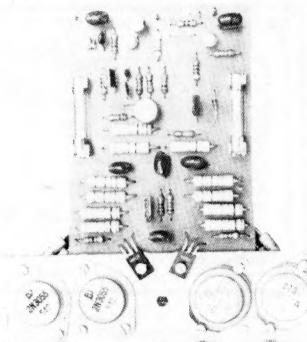
No self-respecting guitarist since Jimi would be caught dead without a fuzzbox. If you're a guitarist, what more can we say? This is a great design from EA's February 1981 issue, and solves the problems of noise that have plagued fuzz boxes for years. Also has sophisticated CMOS signal switching to get rid of the 'thump' when you switch to fuzz. Housed in a rugged diecast box, with footswitch, connectors and fuzz control. KE1080.....\$19.50



ETI480 series amplifier modules 100W power amp

A complete 100W amplifier on a board. Just add a power supply and whatever case you want and you have a 100W hi-fi, musical instrument or PA amplifier. Use the KE1400 Mixer/preamp for instrument or PA use, or the KE1975 control preamp for hi-fi use (you'll need two modules). Use with an HE2429 heatsink, the KE3050 power supply below and add a case to complete your amplifier. See ETI December 1976 or ETI's book '30 Audio Projects'.

KE3070.....\$25.00



50W power amp

Same as the 100W module above with two fewer output transistors. Same proven performance and reliability, half the power and a little cheaper. KE3060.....\$19.50

Power supply

The power supply to suit one 100W module or a pair of 50W modules. Also has a speaker protector and a ±15V power supply to feed preamps etc. Use with ME2004 or ME2312 C-core transformer. PC board and parts only. KE3050.....\$19.50



ETI445 preamp

Uses a single LM382 IC to produce a compact, multi-purpose stereo preamplifier. With simple changes of component values it can be a phono preamp with accurate RIAA curve; an NAB tape head preamp or a flat mike or line preamp. Operates from a single 10-15V DC supply. PC board and parts only. Ideal for uses such as a compact battery operated phone preamp to feed PA's etc. See ETI's '30 Audio Projects' book or ETI July 1976.

KE2080.....\$8.50

Dual regulated power supply

Provides ±15V DC at 150mA to power small preamps, equaliser etc. Any project using op amps needing dual supplies. Complete on a small PC board. See ETI June 1977/30 Audio Projects.

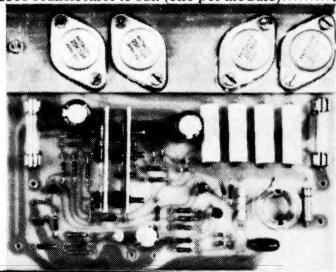
KE1950.....no transformer.....\$9.50

Transformer to suit: Cat. ME2815.....\$6.80

ETI477 MOSFET module

The heart of the fantastic ETI5000 power amplifier (see page 2). Power output is up to 150W RMS; frequency response 8Hz to 20kHz +0 -0.4dB; S/N 116dB at full output; THD 0.001%. And with the high reliability and speed of power MOSFETs. Parts for module only are included (including special heatsink bracket). See ETI February 1981 for a full description of this superb amplifier.

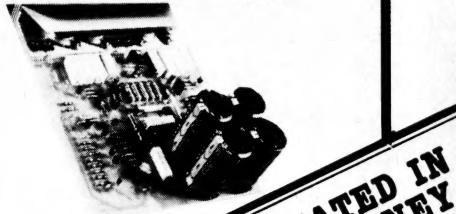
KE4300 Module only.....\$59.90
KE5030 Power supply, no transformer.....\$49.00
ME2361 Transformer to suit (one per module).....\$35.00



ETI466 300W amp module

The biggest of ETI's power amp modules, this one delivers a whopping 300W RMS into 4 ohms. All parts except power transformer are on-board, making it exceptionally easy to build. All you need is a ME2063 transformer, an HE2433 heatsink and a case and hardware to build an earthshaking power amp. Note that the heatsink shown is not included. See ETI February 1980.

KE3090.....\$63.50



CONVENIENTLY LOCATED IN
THE CENTRE OF SYDNEY

kits—automotive, computer, metal

AUTOMOTIVE KITS

If you've bought 'kits' before, don't get them confused with Electronic Agencies' kits. All our kits are complete as per the original magazine articles. We don't do 'shortform' kits that you'll never get going. All kits (except module kits) include cases and front panels where designed by the magazine. All PC boards are top quality fibreglass—not cheap phenolic. A copy of the original article, or in some cases our own detailed instruction manual, is included. Don't buy kits that leave out plugpacks, substitute plastic boxes for metal or have dozens of substituted parts—buy Electronic Agencies' kits and build a project that works.

A range of kits for the electronics enthusiast who's also into cars. Keep your car in tune, check your speed and protect against burglars—all for a fraction of the price of commercial equivalents. As with all our kits, these are complete down to the last nut and bolt. For the fantastic EA Digital Engine Analyser, see page 2.

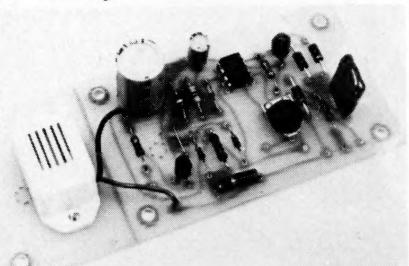
ETI455 Loudspeaker protector

Modern direct-coupled amplifiers are now almost universal—and it's no wonder, with their sound quality. There's only one catch to them: if a fault develops in the amp, you could find yourself not only with a blown up amp, but with your speakers burnt out as well.

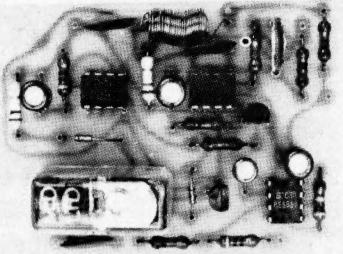
This great kit by ETI ends any worries about this. It continuously monitors the speaker lines of a stereo amp and instantly shuts off the speakers if it detects any faults. In addition to this, the ETI455 will shut off the speakers if the power reaching them is too high. The maximum input level is easily set using a front panel control—from 3W to 100W. The whole thing is housed in a compact metal case and battery operated. See ETI March 1980.

KE2075.....\$26.00
Ideal for use in systems with very high powered amplifiers and relatively low powered and fragile speakers.

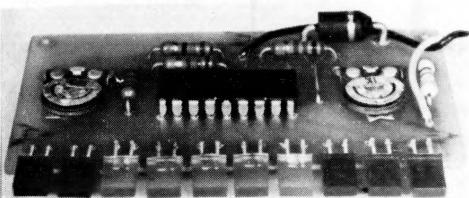
Speed Sentry



Car alarm

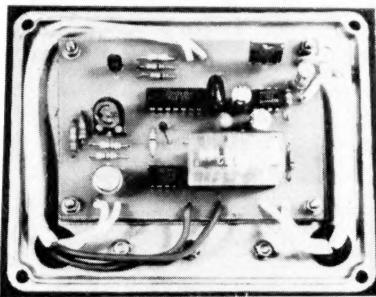


LED Voltmeter

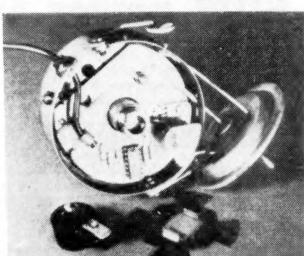


HAVE FUN, BUILD A KIT

Deluxe car alarm



Breakerless ignition



Speed Sentry

As published in EA May 1981. This ingenious little kit senses your vehicle's speed and sounds a warning at a preset speed. No more worrying about speeding tickets! Simply set your Speed Sentry and drive. Requires only a simple connection to the ignition system. Also usable as a rev alarm to warn against over-revving the engine. It's cheaper than a radar detector and more effective!

KE1090.....\$12.00

Car alarm

ETI's famous 084 design. This alarm is probably the cheapest way to protect your car from burglary. Senses voltage drop in the car's electrical system (from door lights coming on etc.) and switches a relay on to control the car horn or a siren (not included). Switched on and off with a concealed external switch or key switch (not included).

KE1700.....\$12.50

Deluxe car alarm

Brand new design from ETI (July 1981) incorporates an extremely sophisticated version of the voltage drop detection system used in the ETI084 (above). Also has a dash mounted flashing light to deter would-be-thieves, an alarm trip light to tell you if the alarm's been triggered, and entry and exit delays—you don't need to remember to switch the unit on. Compact design housed in rugged diecast box. Alarm triggers a relay which switches the car's horn on at one second intervals.

KE1725.....\$27.50

LED Voltmeter

The only really reliable way to keep track of your car's battery life and regulation is with an accurate voltmeter. Old style ammeters just don't give a meaningful reading on modern cars fitted with alternators. This design from ETI gives a readout on a row of LEDs—colour coded to give you an instant 'low' or 'high' indication. Progressive battery deterioration can be seen as the battery voltage slowly drops. There's no need to get up one morning and find your car with a dead battery! ETI326.

KE1650.....\$12.99

Breakerless ignition

This circuit replaces the contact breaker assembly in a car ignition for use with Transistor Assisted Ignitions (like our KE1825 kit—see page 2) or Capacitor Discharge Ignitions. By eliminating the breakers, the ignition stays in better tune virtually indefinitely. Note that this is not a kit for the novice as some mechanical skill is needed to integrate it with the car's distributor assembly. Kit includes parts as per the EA article (June 1981), but not the chopper disc (as this varies from car to car).

KE1850.....\$15.00

COMPUTER KITS

METAL DETECTOR KITS

ETI449 metal detector

This is the more economical of our two metal detector kits (for details of the fantastic ETI1500 detector, see page 2). Proven induction balance design outperforms simple BFO types—while still being easy and economical to build. This kit includes all parts to build the controller and the wire needed for the search head. The search head and handle are not included.

KE1450.....\$35.00

ETI660 Computer

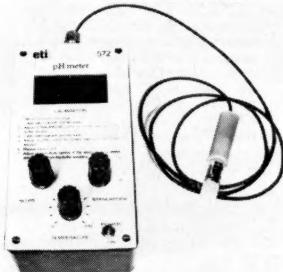
This is the '\$99' computer under development by ETI. Full details were not available at the time of going to press—but keep an eye on ETI and our ads for details of this great project.

detector and test equipment

pH meter

This is a really precision instrument designed by ETI (December 1980) to give a precise digital readout of pH in soil analysis, chemical laboratory, swimming pool and tropical fish tank maintenance. Display is a 3½ digit Liquid Crystal type, making reading in daylight simple. This kit comes complete with the specified pH probe, two bottles of buffer solutions and all parts. ETI572.

KE4050.....\$99.50



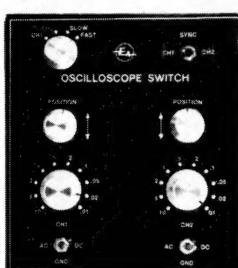
Digital Capacitance Meter

Gives a precise, non-ambiguous display of capacitance. Measures from 1pF to 99.00uF in three ranges. 4 digit LED display, housed in a metal case. See EA September 1980. KE4070.....\$59.90



Dual trace switch

Own a single trace CRO and thinking of getting a dual trace? Forget it! Here's a simple kit that converts any single trace oscilloscope to dual trace use. It's ideal for use with our QES487 CRO. The unit features dual switched attenuators, sync selection, AC or DC coupling and selectable chop rates. Operates from a plugback power supply (included). See EA February 1981. KE1420.....\$65.00



TEST EQUIPMENT KITS

Every serious hobbyist wants to have a properly equipped workshop, fitted out with a full selection of test equipment. Unfortunately, commercial test gear is incredibly expensive which means that all but the most ardent or fortunate hobbyist has to get by without. Well here's the answer: build it yourself! This range of build-it-yourself test equipment covers most needs—and often the designs are so good that the performance rivals commercial units costing many times as much. All you need to add is your time.

pH Electrode

This is the electrode as used in the ETI572 Digital pH meter. It comes complete with two buffer solutions and is fitted with high quality cable and BNC connector. QE5602.....\$45.00

Audio oscillator

Over the years there have been a lot of oscillator projects on the market. Some good, some not. But this new design from EA (June 1981) is the first to offer really low distortion (0.003%) and really fast rise-time square waves essential for testing modern audio equipment. Frequency range is from 15Hz to 150kHz in four ranges; output attenuation is provided in 7 10dB steps. All housed in a solid steel case with special frequency scale control knob. Fully complementary design and MOSFET square wave output stage giving a constant source impedance—unique in kit oscillators.

KE4090.....\$68.00
Take a look at what a commercial one costs!



Benchmate

EA's helping hand for the enthusiast. This handy little box of tricks incorporates a variable regulated power supply and 1W audio amplifier—two of the most-used items on the work-bench. The power supply can deliver voltages from 1.25 to 16V DC at currents up to 1A; the amplifier is handy for signal tracing and testing audio circuits. Output is to an external speaker (not supplied)—use one of those drifting about in your junk box); input is either 1mV or 70mV into RCA and 3.5mm jack sockets respectively. Once you've built one of these, you won't know how you got along without it! EA June 1981. KE1875.....\$45.00



3½ digit LCD panel meter

This is a kit from Intersil. Based on their 7106 analog to digital converter, it builds up into an incredibly accurate DC voltmeter with a range of 200mV. But that's not all! With the addition of a few resistors and a switch, you can add ranges to the meter and, if you consult ETI October and December 1977 you'll find circuits that use this display module to form a digital voltmeter and thermometer. The display and IC also form the heart of ETI's pH probe (see above) and their digital display Audio oscillator (May 1978). Kit includes D-A converter IC, 3½ digit LCD display, PCB and all passive parts. The IC is also available separately (see page 30). KE4010.....\$42.50



Sound level meter

Fast, accurate measurements of sound levels for hi-fi, sound reinforcement, acoustic and noise pollution tests. This design is from EA (May 1981 issue) and features low cost, measuring range from 30dBA to 120dBA (all 'A' weighted) and simple construction. KE4100.....\$39.50

head
not included.



TV CRO adaptor

Like a CRO? Don't like the price? Here's the answer: a simple kit that connects to that old black and white TV (or new colour TV for that matter) and converts it to an oscilloscope suitable for audio use. Has two modes, gain, focus and sync controls. And a price that's about an eighth of the price of the cheapest CROs around! EA May 1980. Our kit includes the plug pack power supply. KE1410.....\$39.90



**HAVE FUN,
BUILD A KIT**

kits—beginners, household, lighting effects

BEGINNERS' KITS

BUZZ BOARD BASIC AMP

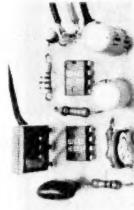
Test your reflexes! In this project you build a wire path along which you must guide a wire loop—without touching the wire! You can make it as hard or as easy as you like, by simply changing the path of the wire. If you fail and touch the wire, a buzzer sounds. Project ETI048. KE0110.....\$3.90

Teaches the basics of transistor amplifiers and builds a useful low-powered amp at the same time. Amp can be used to amplify microphones (our CE1010 is ideal) or crystal radios so they can be heard through a small loudspeaker (included). Project ETI061. KE0120.....\$5.50



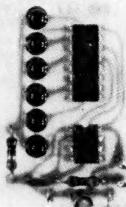
SIREN

Build a working electronic siren. Great for model use, small burglar alarms or just for fun! Remarkably loud through included miniature speaker—even louder through a home speaker like our CE2705. Project ETI1065. KE0150.....\$5.50



LED DICE

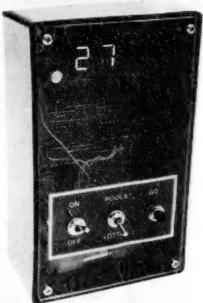
Saves all that tedious arm work with conventional dice. Six LEDs give a random sequence at the push of a button. Can also be used as a mini chaser. Project ETI1068. KE0180.....\$5.90



JUST FOR FUN

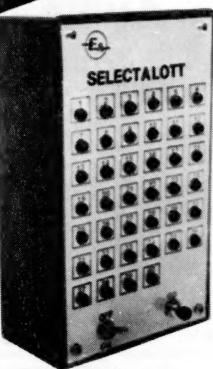
Lotto/Pools selector

Electronics Australia July 1981. If you're tired of racking your brain thinking up numbers for your Lotto and Pools coupon—here's the electronic answer to your prayers. Simply select Lotto or Pools, push the button, and there's your number! (Sorry, you have to mark the coupon yourself.) Has a clear 7 segment LED display. Also great for picking dishes in Chinese restaurants. KE1025.....\$25.00



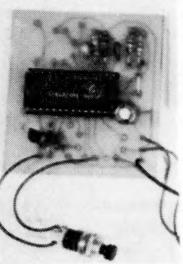
Selectalott

If you only play Lotto, you don't need all the features of the Lotto/Pools selector above. This one has 40 LEDs—one for each number. Simply push the button and there's your number. See EA December 1980. KE1000.....\$22.95



Steam train and whistle

Here you are model train enthusiasts. A simple to build realistic imitation of your favourite sound. See EA July 1981. KE1060.....\$18.00



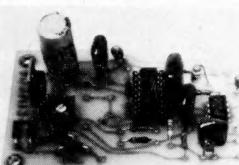
SOUND EFFECTS

This series of kits from ETI produces a huge range of sound effects using an incredibly sophisticated IC from Texas Instruments. Ideal for model use or people with irritating neighbours (this'll shut 'em up!). ETI1607 series—see July 1981.

KE0200 Bomb and Explosion.....\$11.95
KE0210 Steam train/whistle.....\$10.95
KE0220 Phaser and Alarm.....\$9.95
KE0230 Phaser and Explosion.....\$10.95
KE0240 Gun shot.....\$10.95
 SN76488 Sound synth. ZE5488.....\$4.95

Cylon voice

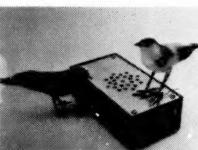
Tired of that boring old voice? Change to the latest in fashion voices: Cylon Voice. Gives you that authoritative sound that makes people really sit up and take notice! See EA February 1981. KE1110.....\$18.95



PC Birdies

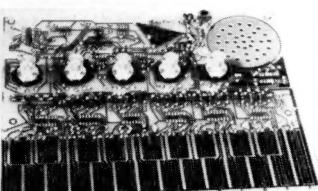
If you like the sound of canaries, but aren't keen on their less pleasant characteristics—this is the kit for you. At the push of a button it produces a pleasant 'chirp'. All the fun of real canaries—and all you'll ever need to change is the battery. (Birds not included.) See EA May 1981.

KE1050.....\$14.95



Electronic organ

From EA's July 1981 issue, this is the mini organ to beat all. Extremely sophisticated circuit based on a Voltage Controlled Oscillator and Amplifier. Gives an enormous range of effects from its two octave touch keyboard. In-built amp and speaker, tremolo and percussion. KE3000.....\$68.00



RF & AMATEUR KITS

FM Wireless microphone

From Hobby Electronics. This kit lets you transmit to any standard FM receiver—up to 30m away. Project HE106. KE1150.....\$7.50



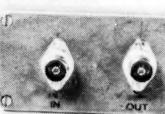
Wideband receiver

It's been a long time since a decent short-wave receiver kit's been readily available, but this one's been worth the wait. Four bands cover from Broadcast to 30MHz using plug-in coils. Full superhet design gives incredible performance. See EA November 1980. Just look at the price! KE4110.....\$65.00



Masthead amplifier

If your TV signal's not all it could be, or you're running several sets or long antenna leads, this kit could solve your problems. Two units: one mounts on the TV antenna mast, the other (power supply) sits discreetly behind your TV. No extra power cables are needed. Based on the Philips OM350 wideband amp IC. Works on VHF and UHF. See EA August 1979. KE1625.....\$35.00



SEE PAGE 2 FOR THE GREAT NEW MUSICOLOR CHASER

HOUSEHOLD KITS

EA Infra-red remote control

Ideal for wildlife photography. This unit produces an infra-red beam between the transmitter and receiver units which, when broken, causes the unit to close a circuit which can trigger a camera or alarm device. Also useable as a target game. See EA March 1981.

KE1550.....\$39.00



Ion generator

There's been a lot of talk about the beneficial effects of negative ions, but until now you couldn't find out for yourself without spending about \$100.00 Well here's your chance to find out whether negative ions work for you—and it'll only cost you \$39.00. See ETI April 1981. This is a complete kit, with all hardware and power supply—don't be fooled by 'cheaper' kits that don't include these essential parts.

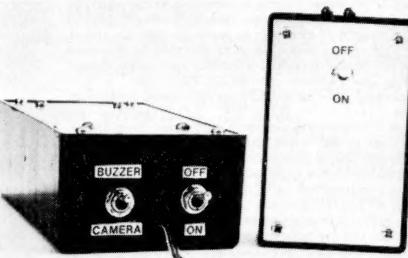
KE1600.....\$39.00



Microwave leak detector

If you own a microwave oven, your peace of mind is worth the price of this kit. Extremely simple and foolproof to build and use. Gives a positive indication of the security of your oven's seal. ETI 724.

KE1100.....\$14.95



ETI Infra-red remote control

Remote control living is here! This kit controls mains operated equipment from up to 10 metres away—with a simple push on a remote transmitter's button. Can control mains appliances rated at up to 5A. See ETI April 1981.

KE4120.....\$69.00



'Le Gong' doorbell

Get rid of that passe 'ding-dong' thing. Replace it with this great little doorbell kit designed by EA. Uses a special IC to produce a pleasant chime to summon you to the door. Kit does not include pushbutton (see page 27 for suitable units). EA February 1981.

KE1120.....\$15.00



LIGHTING EFFECTS Musicolor III

The famous sound-to-light converter from EA. Thousands of these have been built and are giving great lighting displays to go along with their constructors' music. This kit is supplied complete down to the last nut and bolt in a fully punched steel chassis with a deluxe anodized front panel.



EA September 1976.
KE1500.....\$59.50

Designed to match the Musicolor in appearance, this kit from EA provides a multitude of features—many not found on commercial units costing hundreds of dollars! As well as the well known 'string of lights' normal chase mode, this one has invert and forward/reverse controls—even an auto invert and reverse which adds infinitely to the variety of effects you can create. Same quality kit as the Musicolor. See EA August 1980.

KE1525.....\$65.00

Light chaser



An endlessly fascinating device for the photographer. This unit will fire a flash gun when triggered by a light or sound. Lets you freeze motion to capture incredibly brief moments: water dropping into a bucket, eggs smashing—even bullets going through glass! The only thing to limit its use is your imagination. Comprehensive controls let you adjust the unit for almost any event. See ETI October 1980.

ETI 568.....\$26.95

Grid Dip Meter TE15

An accurate and reliable GDO is an essential instrument for anyone doing RF work. Whether you're a keen radio amateur building "home brew" gear, or a service technician working on 2-way equipment you'll find its uses almost unending;

Use it to check the resonant frequency of tuned circuits

Use it as an RF signal generator

Measure the "Q" of a circuit

Use it as an absorption wavemeter

Even checks AM modulation!

Brief Specification:

Frequency range: 440kHz to 280MHz with six supplied coils

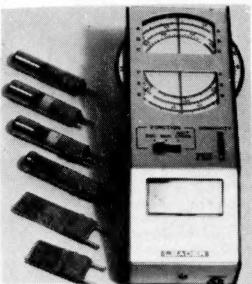
Power supply: 9V 216 battery

Dimensions: 180 x 80 x 40mm

Weight: 730g

QE5514.....

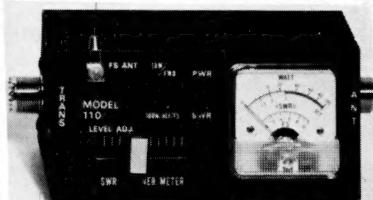
\$99.00



SWR/RF Power/Field strength Meter

This instrument is ideal for the CB enthusiast who wants to know exactly what his rig is doing. When connected between set and antenna it will measure RF power output on two scales (0 to 10 watts or 0 to 100 watts) or at the flick of a switch it will show SWR and so tell you if the antenna is properly tuned. So it can save expensive blowups. With the field strength attachment supplied it will measure the reflected signal:- checks how effective your antenna is.

QE5552.....\$19.90



SEE OUR FULL
RANGE OF TEST
GEAR ON PAGE 19

FLASH KIT

Flash Trigger

Sync.

Power

Delay

Sync.

automotive, audio products, kit parts

KIT PARTS

Front Panels

Pre-punched aluminium panels to suit many magazine projects. All are silk screened.

Playmaster MOSFET Amp	HE7800	\$15.00
ET14000 Amplifier	HE7803	\$15.00
EA Graphic Analyser	HE7810	\$6.50
ET11500 Metal Detector	HE7815	\$5.50
EA5/80 TV CRO Adaptor	HE7818	\$3.95
ET1572 pH Meter	HE7820	\$4.80
EA12/80 Selectalot	HE7823	\$6.95
EA9/80 Digital Capacitance Meter	HE7825	\$4.50
ET1568 Flash Trigger	HE7828	\$6.50
ET1724 Microwave Leak Detector	HE7840	\$2.80
EA8/80 Light Chaser	HE7842	\$7.50
EA11/80 Wide Band Receiver	HE7846	\$6.00
EA10/80 Engine Analyser	HE7854	\$4.00
ET1599 IR Remote Control	HE7857	\$4.50
EA5/81 Sound Level Meter	HE7861	\$4.80
EA6/81 Audio Oscillator	HE7870	\$9.50
EA6/81 Benchmate	HE7871	\$4.50
EA7/81 Lotto/Pools Selector	HE7872	\$2.50
EA8/81 Musicolor/Chaser	HE7873	\$6.50
ET15000 Preamp	HE7887	call
ET15000 Tuner	HE7888	for
ET15000 Equalizer	HE7889	price

Printed Circuit Boards

These are all top quality fibreglass printed circuit boards to suit many popular magazine projects. Don't buy cheap and nasty phenolic boards when for the same price you can have a professional quality board.

EA7/SL11 Speaker Protector	HE9227	\$2.80
EA7/PC92 Musicolor III	HE9320	\$4.50
EA7/9M8 Masthead Amp	HE9364	\$2.50
EA8/PA6 300 Watt Amp	HE9369	\$9.95
EA7/9T11 TAI	HE9372	\$2.50
EA8/V8 TV CRO Adaptor	HE9377	\$3.75
EA8/OC7 Light Chaser	HE9381	\$5.95
EA6/LS12 Selectalot	HE9386	\$3.20
EA8/SA10 MOSFET Amp	HE9388	\$12.50
EA8/0RM12 Cylon Voice	HE9389	\$3.60
EA8/AW10 Short Wave Receiver	HE9412	\$3.95
EA8/0CM3/A/B Dig. Cap. Meter	HE9417	\$6.90
EA8/0FB12 Fuzz Box	HE9427	\$2.95
EA8/0TM8/A/B Dig. Eng. Analyser	HE9442	\$8.50
EA8/1GA3 Graphic Analyser	HE9442	\$12.50
EA8/1R4 IR Light Beam	HE9449	\$3.30
EA8/1R4C IR Target	HE9453	\$2.40
EA8/CC5 PC Birdies	HE9498	\$3.30
EA8/1PS5 Sound Level Meter	HE9500	\$3.30
EA8/1SS4 Speed Sentry	HE9502	\$3.90
EA8/1AO6 Audio Oscillator	HE9501	\$5.50
EA8/1AU6 Benchmate	HE9503	\$4.50
EA8/1OR7 Organ	HE9504	\$18.95
EA8/1P6 Lotto/Pools Selector	HE9505	\$3.90
EA8/1SW7 Steam Whistle	HE9506	\$4.95
EA8/1T6 Breakerless Ignition	HE9507	\$3.60
EA8/1MC8 Musicolor/Chaser	HE9508	\$7.95
HE106 Wireless Microphone	HE9534	\$3.20
ET1061 Basic Amp	HE9533	\$2.95
ET1084 Car Alarm	HE9536	\$2.40
ET1330 Car Alarm	HE9544	\$2.50
ET1438 Audio Level Meter	HE9545	\$2.40
ET1445 General Purpose Preamp	HE9548	\$2.20
ET1449A Metal Detector	HE9551	\$3.20
EA8/PA6 Speaker Protector	HE9553	\$4.50
ET1466 300W Amp	HE9563	\$7.50
ET1467 Mixed Preamp	HE9565	\$4.50
ET1471 4000W Preamp	HE9570	\$12.50
ET1456 LED Level Meter	HE9572	\$5.50
ET15000 Equalizer	HE9579	\$9.95
ET1477 MOSFET Power Amp	HE9580	\$9.95
ET15000 Preamp	HE9581	
ET15000 Tuner	HE9582	
ET1480 Amp Module	HE9583	\$3.00
ET1480PS Power Supply	HE9584	\$4.50
ET1497 4000W X/Over	HE9594	\$9.50
ET1568 Flash Trigger	HE9603	\$2.40
ET1572 pH Meter	HE9611	\$3.60
ET1581 Dual Power Supply	HE9614	\$2.95
ET1599A-D IR Remote Control	HE9618	\$12.50
ET1724 Microwave Detector	HE9623	\$2.60
ET11500 Metal Detector	HE9633	\$9.95
ET11501A-C Ion Generator	HE0635	\$8.50
ET1607A Bomb and Explosion	HE9703	\$2.50
ET1607B Steam Train & Whistle	HE9704	\$2.50
ET1607C Phaser/Alarm	HE9705	\$2.50
ET1607D Phaser/Explosion	HE9706	\$2.50
ET1607E Gun Shot	HE9707	\$2.50

Special Parts for Kits

Fan 75mm Sprite	KE9010	\$29.95
Heatsink Brackets ET1477	KE9015	\$0.75
Crystal 2MHz	KE9020	\$7.50
Crystal 4MHz	KE9025	\$7.50
Crystal 8.86738MHz (small)	KE9030	\$6.50
Crystal 3.58MHz	KE9040	\$3.00
Ferrite Rod sub MOSFET	KE9100	\$0.50
Video Modulator CH.1	KE9200	\$4.95
Thermal Cutout (300W amp)	KE9250	\$8.95
ET11500 Metal Det. — Search Head and Handle Assembly	KE9260	\$89.00

WIRELESS INTERCOM-2 STATION

This is the intercom if you want maximum flexibility. It works on FM, and uses your mains wiring for both power and to send the signal down. This means no tedious wiring and no batteries to run down. You can move the units from room to room, house to garage and add extra units as your needs grow. Has call tone, on-off switch and volume control. Two channels for master/slave operation.

FE2002.....

Peerless ALS3 Automotive Loudspeakers

German-engineered Peerless speakers bring you the sound quality of domestic hi-fi in your car.

It's really pointless buying a high quality car cassette player and then expecting dazzling sound quality from a couple of twin cones screwed into the door trim. This system is the result of research by Peerless engineers into the factors affecting car audio reproduction. Their results—the ALS3. Features:-

- Ultra rigid die-cast enclosures with metal protective grills
- Three-way active system with long throw bass driver and high power dome midrange and tweeter
- Multi position U-bracket for precise angling
- The speakers have high power handling (30W continuous programme), 4 ohm impedance and give a smooth 45-22,000Hz in car response. A car/home use switch tailors the treble response. The speakers will clip out for home or extension use.

AE7090.....

\$149

Rear Wedge Speakers

These are ideal for the smaller car or where you don't want to cut massive holes. Tough black plastic housing holds punchy 125mm 8W 4 ohm speaker. All cables are supplied.

AE7981.....

\$16.00

Flush Mount Car Speakers

These dual cone units offer 10 watts power handling, punchy bass and clear treble, thanks to their hefty 140g magnet and 130mm dual cone. Their 4 ohm impedance matches all car stereos. Black padded vinyl covers and all cables are supplied.

AE7986.....

\$18.00

Philips Dual Cone Speakers

We want you to have the best. So we offer you these great Philips flush mount speakers. Twin cones, massive ferrite magnets and Philips knowhow result in dynamic sound 4 ohm impedance, 20W power handling.

AE7020.....

\$38.90

Cut That Static

Inline Suppressor

Screws in between distributor and coil. Cuts down radiated noise.

AE8905.....

\$0.65

Spark Plug Suppressor

Fits between spark plug and coil. In-line resistor cuts down interference.

AE8909.....

\$0.65

Distributor Suppressor Capacitor

This 0.5uF cap. connects onto the 12V side of the coil. Reduces ignition interference.

AE8903.....

\$0.65

Alternator Filter

Fits between the field windings of the alternator or generator and the regulator. Reduces noise from brushes and sliprings.

AE8927.....

\$9.50

Coaxial Suppressor Capacitor

0.5uF capacitor fits between noisy device and electrical system. Suitable for fixing noisy windscreens, wiper motors and generators. Can handle up to 60 amps.

AE8929.....

\$4.95

Car Extension Speaker

This speaker is ideal for car radio and CB radio use. The tough black plastic housing contains a 100mm 8 ohm 5 watt speaker. The unit includes a 2 metre cable terminated in a 3.5mm jack plug. Improve your sound today!

AE7975.....

\$9.50

Antenna Extension Leads

Antenna lead too short? Extend it with these. Both have standard car radio plug and line socket.

AE8451 1 metre.....

\$3.00

AE8454 3 metres.....

\$4.00

Car Radio Speakers

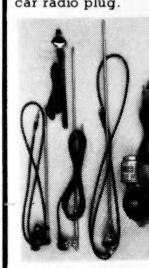
These speakers are ideal for replacement use. All have special dual impedance voice coils (4 and 8 ohm) so they match virtually all car radios and stereos. All have protective cloth over their cones.



CE2820.....

Antennas

These suit virtually all car radios and are terminated in a standard car radio plug.



Roof Mount

Centre roof mount antenna with spring loaded base. Angle fully adjustable.

AE8307.....

\$9.50

Datsun Pillar Mount

Suit Datsun 180B and other cars using pillar mount antenna.

AE8331.....

\$7.95

Top Cowl

Standard cowl mount antenna. Goes on front mudguard. Standard 25mm mounting.

AE8339.....

\$3.95

Lockdown

Don't get your antenna ripped off, lock it down. Needs 335mm space below mounting point. Standard 25mm mounting.

AE8301.....

\$6.95

Deluxe Electric

Suits 12V positive or negative earth systems. Has dash mounted switch to raise and lower. Needs 325mm below its standard 25mm mounting.

AE8361.....

\$23.00

125 x 200mm PA Horn Speaker 8 ohms

This large efficient horn is ideal for PA work. It is fully weatherproofed and comes complete with mounting bracket.

Power Handling.....

15W

Freq. Response.....

300-5000Hz

CE2820.....

\$24.50

Speaker Grills

Tough Black Plastic

AE8816 Suit 225 x 150mm speaker

AE8817 Suit 175 x 125mm

Both \$2.00 each

AE8833 Suit 125mm round

\$2.50 each



AE8131 150 x 100mm \$4.95

AE8136 175 x 125mm \$7.25

AE8141 225 x 150mm \$9.50

AE8146 125mm round \$6.25

AE8156 150mm round \$7.20

TWO STATION ECONOMY INTERCOM

Save all that walking and save a fortune! Master unit has volume control and push-to-talk switch. Slave unit has call tone button. Runs for days on a 9V battery. Comes complete with 16 metres of cable with plugs already fitted. Makes a great baby alarm.

LE2022.....

\$15.95



Look at these prices for HITACHI Cassettes



Hitachi cassettes are unsurpassed for quality and value. At Bill's prices they're the only choice! Low noise for value, UD for Ultimate Quality.

CE4062 C60LN	\$1.80	1 to 9	\$1.65	10 up
CE4067 C90LN	\$2.45	1 to 9	\$2.20	10 up
CE4072 C60UD	\$3.10	1 to 9	\$2.80	10 up
CE4077 C90UD	\$3.65	1 to 9	\$3.30	10 up

Cassette Splicing Tape

Now you can repair those precious recordings. Just cut out damaged section of tape and insert splicing tape. Has self-adhesive backing.

CE8082	\$1.75
--------	--------

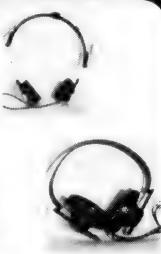
BASF REEL TAPE

High quality BASF reel to reel tape. 7" tape. 2,400' length.

CE4407	\$14.50
--------	---------

Headphones Value

Ultra Light



These headphones offer you an unprecedented level of wearer comfort combined with ultra wide range sound. The latest developments in headphone driver units use tiny mylar units capable of 20-20,000Hz response. They are used in these phones to bring you concert hall realism without listener fatigue. The reproduction of these phones is very open and detailed. 6.5mm jack plug, 2 metre lead. QES112.....\$15.99

These phones offer good quality at a very reasonable price. 8 ohm impedance. 40-20,000Hz response. 6.5mm jack plug, 2 metre lead. CES105.....\$7.95

BE SURE USE SHURE!!

Model M91ED

Has high trackability with tracing forces of .75 to 1.5g. Flat response from 20-20,000Hz. Channel separation better than 25dB. Bidirectional elliptical diamond stylus. Ideal for high quality audio systems.

CE6517	\$35.95
--------	---------

Model M70EJ

Very good trackability at forces of 1.5 to 3 grams. 20-20,000Hz response. Has diamond elliptical stylus.

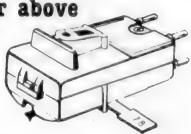
CE5512	\$17.85
--------	---------

Model M70B

Same as the M70EJ but fitted with a conical diamond stylus.

CE6513	\$12.80
--------	---------

Replacement styli for above



N91ED suit M91ED	\$19.95
N70EJ suit M70EJ	
CE6036	\$13.95
N70B suit M70B	
CE6034	\$9.50

Replacement Crystal Cartridges

Type GXS.14 (suit BSR S460M). Ideal replacement for crystal pickups in older record players. 0.9V output.

CE6042	\$11.25
--------	---------

Care for your Hi-Fi

Tape Head Cleaner

Convenient cleaning brush and fluid. Removes dirt and oxide buildup.

CE8021	\$1.39
--------	--------

Cleaning Demagnetizing Cassette

Contains a special cleaning tape and spinning magnet assembly.

CE8068	\$3.95
--------	--------



Anti-Static Gun

A squeeze of the trigger and a stream of ions discharge static from your records, allowing dust to be removed and improving sound reproduction. No more clicks and pops!

CE8038	\$9.95
--------	--------

Record Cleaning Brush

This fantastic brush has over 1 million micro thin cleaning fibres which get right down into the record grooves and remove fine dust particles which other brushes can't reach. Very similar to Decca Brush.

CE8048	\$16.95
--------	---------

Anti-Static Dust Bug

This extra high quality dust bug comes with special anti-static fluid to further aid in removing dust and inhibiting static buildup.

CE8055	\$7.95
--------	--------

Dust Bug

This device tracks the record, like the tone arm, and picks up dust which falls while the record is playing. Very fine fibres get right down into the record grooves.

CE8055	\$3.50
--------	--------

240V Head Demagnetizer

With this powerful mains powered demagnetizer you can remove built-up magnetism in heads and guides in just a few seconds. Don't get noisy reproduction—keep your machine in tip-top condition.

CE8220	\$6.95
--------	--------

Telephone Pickup

Now you can record and monitor telephone calls with just this unit and a cassette recorder or small amplifier. Just clip it onto your telephone and plug into the microphone socket and you are in business. Comes complete with 3.5mm plug.

CE8298	\$1.50
--------	--------

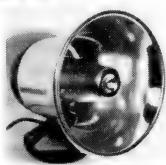
Stereo Speaker Fader

This is designed for balancing the sound of four speakers in your car. Two sliders give you left-right and front-rear control. Don't blast the people in the back.

AE8843	\$5.95
--------	--------

125mm Weatherproofed

Horn Speaker 8 ohm/5W



This anodized 8 ohm unit has high efficiency and is ideal for speech reinforcement and siren alarm use. Rugged weatherproofed construction makes it the ideal unit for outside use.

CE2807	\$9.50
--------	--------

5 Watt Audio Amp. Module

This compact module runs on 9V DC and is ideal for intercom and paging use and anywhere you need a battery driven amp.

Brief Specifications

Max Power: 5 Watts Freq. Resp: 50-15kHz
Sensitivity: 35mV for 5W output Output Imp: 4, 8, 16 ohm

FE5107	\$15.95
--------	---------

HITACHI HI-FI

We have selected a range of Hitachi hi-fi as representing the best value for money on the market. We haven't got space to do justice here, so please phone or write for full information or call in to our store for a demonstration. The range includes:

- HA4700 stereo integrated amplifier. 50W per channel; 0.02% distortion at full power. Full range of facilities including LED VU meters and moving coil preamp. AE1320.....\$290.00
- FT3400 AM/FM stereo tuner. Vector tuning system for easy precise tuning; sensitivity 1.9uV (FM) with 0.09% distortion in mono; 75dB S/N (mono). AE1340.....\$179.00
- FT4400 AM/FM stereo tuner. Microcomputer controlled, digitally synthesised tuner with 12 station memory, digital frequency display and recording level check. AE1342.....\$295.00
- HT-40S stereo direct drive turntable featuring brushless DC servo motor, super sensitive straight tone arm with gimbal mount and a high compliance magnetic cartridge. AE1350.....\$189.00
- D-855 stereo cassette deck. Microcomputer controlled with Metal tape capability, long life Sendust head, feather touch controls, two motor transport and 16-LED peak and hold meters. AE1360.....\$289.00
- We stock a range of portable AM/FM radios and radio cassettes to suit any budget—call for more details.

TOOLS

Screwdriver sets

A set of 6 top quality Fuller screwdrivers at a bargain price. Large unbreakable handles, nickel plated hardened steel blades. Set includes: 3.2 x 60mm pocket; 4.8 x 100mm electricians'; 6.4 x 38mm stubby; 6.4 x 150mm mechanics'; Size 1 Phillips and a combination offset screwdriver.

TE5390Complete set of 6	\$5.00
--------	------------------------	--------

Interchangeable tool set

A fantastic set of miniature metric tools with interchangeable jewellers' type handle in a compact plastic case. Set includes: 1.5, 2.5, 3.5mm flat screwdrivers; Size 0 & 1 Phillips blade; 1.5, 2, 2.5mm Hex Allen keys; 4, 4.5, 5, 5.5, 6mm open end spanners; 3, 3.5, 4, 4.5, 5mm nut drivers; Handle, tommy bar, and awl. And look at the price for this lot!

TE5399	\$7.95
--------	-------	--------

Heatsink compound

Does not contain harmful Beryllium Oxide.

NE4314100g pack	\$3.50
--------	----------------	--------

NE4304syringe dispenser	\$2.50
--------	------------------------	--------

Lettering sets—Amical

Rub down lettering with all the most common electronic words. Use for labelling front and back panels of projects. It looks a lot better than Texta or Dymo tape! 12 sheets in each pack.

NE49043.1mm high black lettering	\$4.75
--------	---------------------------------	--------

NE49082.3mm high black lettering	\$4.75
--------	---------------------------------	--------

NE49102.3mm high white lettering	\$4.75
--------	---------------------------------	--------

Toolbox
Now that you've got all these quality tools, where do you keep them? Not rolling around in a drawer or cupboard—that damages blades (and unwary hands!). Keep them in this quality Australian made steel toolbox. Just big enough for the average electronic tool kit (approximately 450 x 150 x 120mm). Orange enamel finish.

TE9300	\$9.50
--------	-------	--------

Titan mini drill

This is definitely not a typical 'useless' mini drill. English made 12V drill gives plenty of power for PC drilling and other hobbyist use. There are cheaper drills around—but try and use one to drill a fibreglass PC board—you might get one or two holes drilled, but you'll feel like using a nail for the rest. Operates from a car battery or any 12V DC source.

TE6765Drill only	\$40.00
--------	-----------------	---------

PC Drill bits

TE68251mm diameter	\$1.25
--------	-------------------	--------

TE68300.8mm diameter	\$1.25
--------	---------------------	--------

Drill kit
Thirteen sizes of quality high speed steel twist drills for use in metal, wood or plastic. Inch sizes from 1/16" to 1/4". In plastic case.

TE6805	\$2.95
--------	-------	--------

Jewellers screwdriver set

TE5395	\$1.99
--------	-------	--------

Audio connector cables
A range of cables that will connect just about any piece of sound equipment to just about any other. All high quality moulded construction for a long reliable life. All are shielded. Lengths vary between 1m and 2m depending on use.

5 pin DIN to 5 pin DIN plugs	WE5113	\$3.20
------------------------------	--------	--------

5 pin DIN to 4 RCA plugs	WE5143	\$3.95
--------------------------	--------	--------

4 RCA to 4 RCA plugs	WE5163	\$4.95
----------------------	--------	--------

1 RCA to 1 RCA plugs	WE5173	\$1.10
----------------------	--------	--------

4m coiled headphone ext. cable	WE5220	\$4.50
--------------------------------	--------	--------

2 RCA to 2 RCA plugs	HE5283	\$2.75
----------------------	--------	--------

3.5mm jack to 2 RCA plugs	HE5293	\$7.95
---------------------------	--------	--------

Audio adaptors

Why buy or make new audio leads when a selection of these adaptors can cope with all your connector problems!

All have a female socket input, male plug output.

socket plug		
-------------	--	--

6.5mm to 3.5mm jack	PE5608	\$0.85
---------------------	--------	--------

3.5mm to 6.5mm jack	PE5618	\$0.85
---------------------	--------	--------

RCA to 6.5mm jack	PE5628	\$0.85
-------------------	--------	--------

3.5mm jack to RCA	PE5638	\$0.85
-------------------	--------	--------

6.5mm jack to RCA	PE5648	\$1.0
-------------------	--------	-------

quality speaker kits

"Pure quality" Peerless Speakers



Peerless PAS100 3-way 100 litre system

This system is the flagship of the Peerless range. It is available with or without enclosures. The PAS100 is the most powerful system ever presented by Electronics Australia. With an internal volume of 100 litres and a power handling capacity of 100 watts combined with a sensitivity of 93.5dB/w/metre the result is a system capable of providing superb reproduction at devastatingly high levels, even in large lounges and with today's super high powered amplifiers. Frequency response extends from 40Hz to the limits of audibility. Drivers used are:

KD120WFX Bass Driver. This newly developed unit features a 305mm cone of moulded polypropylene with a very high tensile strength and high internal damping. The surround is of treated foam rubber. The resulting driver has an ultra low 26Hz resonance which only rises to 45Hz in the specified cabinet. A huge ceramic magnet assembly and voice coil result in high sensitivity and power handling capacity.

KA20DMR Midrange. This 50mm dome unit combines extremely flat response between 600Hz with excellent dispersion and a 100 watt power handling capacity. Transient response is superb, thanks to the light textile dome and hefty magnet structure.

KO10DT treble Unit. The tweeter is also a cloth dome unit with a diameter of 25mm. It provides smooth response with low distortion from 1500Hz to 20kHz.

The crossover is a 12dB per octave unit designed to match correctly with these drivers.

Complete constructional details are supplied with the speaker kits. Or see Electronics Australia June 1981 for full constructional details and specifications.

Enclosures. To complement this Superb speakers we really went overboard and got cabinets that do them justice. Crafted from ultra high density particleboard, they feature precision joints and veneer. They are to full Electronics Australia specification.

Speaker Kit.

\$364.00 pair

CE2422.....(includes all drivers and crossovers)

Enclosures (pair) 815mm (H) x 440mm (W) x 370mm (D)

complete

\$196.00 pair

CE2465.....

Peerless PAS60 3-way 60 litre system

For those who don't require the high acoustic levels and power handling capacity of the PAS100, the PAS60 is an excellent alternative. Efficiency is a very respectable 92dB/w/metre and dimensions 400 x 700 x 290mm. Usable bass is available down to 40Hz.

Drivers used are

KP100WFX Bass Driver. A 250mm diameter cone of moulded polypropylene and treated surround of foam rubber results in a fundamental response of 28Hz. This rises to 50Hz in the recommended enclosure.

KU45MRF Midrange unit. This is an open back design with a 75mm diameter cone, rubber surround and very large ceramic magnet. This ensures excellent transient response and high efficiency. Very smooth response is available in the working range from 600Hz to 6kHz.

Peerless supply a suitable tube which is glued to the rear of the enclosure after being filled with damping material.

LK10MDT treble unit. This is a 25mm soft dome unit with a working range from 900Hz to 20kHz. A matched crossover network is supplied. It gives 12dB per octave crossover points which ideally complements the drivers. The resulting System has smooth wide ranging sound from 40Hz to beyond the limits of audibility and is capable of easily handling 60 watts continuous programme. The kit comes complete with all components to build the system (except cabinets) and with full instructions. Full instructions and further technical specifications are available in Electronics Australia July 1981.

CE2424 (includes all drivers and crossovers) **\$214.00 pair**

Peerless PAS25 2-way 25 litre system

When compared with the PAS60, the PAS25 appears to be only half the size. However, it produces a very high standard of reproduction. It has a generous power handling capacity of 50 watts continuous programme with an efficiency of 90dB/w/metre. Dimensions of the recommended enclosure are only 295 x 580 x 230mm. The PAS25 uses the KP825WFX Bass driver with a nominal diameter of 210mm. It has a rubber roll surround and polypropylene moulded cone giving it a free air resonance of only 33Hz with a Q-factor of only 0.38. As a result, even when mounted in its compact enclosure, its resonance only rises to 65Hz. The bass unit is crossed over at 3kHz to the tweeter. This is the Peerless LK10MDT, the same as in the larger PAS60. The crossover is a 12dB per octave design matched to the drivers. The kit comes with all components (except cabinets) and with full instructions. For further data and further technical specifications see Electronics Australia July 1981.

(includes all drivers and crossovers) **\$166.00 pair**

CE2426.....



Electronic Agencies is one of the very few places where you can both hear and buy a wide range of really top of the line speaker components and kit systems. All these superb Philips and Peerless Systems are on demonstration in our sound lounge.

ETI 4000/1 4-way

For those not prepared to compromise, this is the system. David Tilbrook's all-out effort has resulted in this design, which can only be described as brilliant. Those who have heard it have been unanimous in their praise, comparing the 4000/1 to systems costing three times the price—often with embarrassing results! The design has only been made possible with Philips latest generation of ultra low distortion drivers, used in a highly sophisticated 4-way format. All drivers work only in their optimum frequency range and are coupled with a complex phase matched crossover, using only highest grade components. If you want one of the finest systems available at any price you can put it together yourself!

Drivers: AD12250/W8, AD02161/SQ8, AD0610/T8. (For details on drivers see page 14 & 15.) The crossover is the ETI 4000/1 design and only units approved by David Tilbrook are supplied by us. The cabinets are available preassembled (due to the complex woodwork involved) and are to the designer's exacting specification. We have spared no expense in preparing this project, and we are sure you will be as impressed and delighted with its performance as we are. With power handling of 100 watts continuous programme and impressive efficiency, the system provides highly detailed and wide ranging sound up to earsplitting levels. This is one you will have to come in and hear to believe.

Speaker Kit CE2430..... Includes all drivers and crossovers (pair)

Cabinets to suit (pair)—
fully built
CE2470.....

\$499
\$250



ETI 4000/2 3-way Speaker System

This system, while using much of the knowledge gained in the design of the 4000/1 system is a simpler and more compact system designed to offer a very high standard of performance at a significantly lower price. David Tilbrook went for a 3-way system again using Philips drivers. Significant savings were made by simplifying the crossover and the woodwork. The system uses the same drivers as its larger brother but misses out the upper bass/upper midrange driver of the bigger system. The crossover is a complex 12dB per octave constant-K design, carefully tailored to the drivers. The system provides a very high standard of performance for a 3-way system and compares more favourably with much more expensive systems.

Drivers used are: AD12250/W8, AD02161/SQ8, AD0610/T8. Crossovers used are only those fully approved by the designer, David Tilbrook, and so are to the highest standard.

Speaker Kit
Includes all drivers and
crossovers (pair)

CE2440. **\$380**
Cabinets to suit (pair)
—fully built
CE2480. **\$200**



Sound Value Coral Systems

All Coral systems feature high quality sets of matched drivers and crossovers. The kits are complete (except woodwork) and include all drivers, crossover components, cable and terminals. All you supply is the labour and timber.

8SA—1 3-way System

This system uses a high efficiency 200mm bass driver, 100mm sealed back midrange and a 65mm tweeter. Crossover capacitors are supplied. Power handling capacity is 35 watts and efficiency is high at 93dB/w/metre. Frequency response is 70 to 20,000Hz with crossover points at 4,000 and 7,000Hz. Impedance is 8 ohms. Full constructional details for the cabinet and wiring the speakers is provided with the kit.

CE2400..... **\$68.00** (pair)

10SA—1 3-way System

The use of a 250mm low resonance bass driver gives this system a response down to 40Hz. Power handling is a generous 50 watts and sensitivity is 93dB/w/metre. The midrange unit is a 125mm unit with a rear chamber filled with damping material. The tweeter is a 65mm cone unit. The kit comes complete with all crossover components and cables. Complete cabinet constructional details are given with the kit.

CE2410..... **\$105.00** (pair)

12SA—1 3-way System

This system features a 305mm bass driver with a roll surround for powerful, low distortion bass. It has a specially treated cone and 4 layer voice coil for high power handling. The midrange is a 125mm cone type with a sealed back, removing the need for a separate enclosure. The treble is handled by a pair of 65mm cone tweeters. A matching crossover is supplied. Frequency response is from 30 to 20,000Hz. Power handling is 60 Watts and sensitivity is 95dB/w/metre.

CE2420..... **\$149.00**



Cabinet for 12SA-1 System

These cabinets are designed to optimize the performance of the big Coral system. They are constructed from high density particle board and feature "wrap-around" vinyl veneer finish. As a result construction is very straightforward. The only tools you require are a screwdriver and a tube of glue.

CE2460.....
\$109.00

listen to us!

Speakers

for quality and price we've got them

—SAVE BY
BUILDING
YOURSELF

all 8 ohm impedance
All power handling
figures are Watts RMS.

woofers

Philips

AD12250 30cm (12")

This is the woofer used in the fantastic ETI4000/1 4-way system. Very low distortion, with rubber surround.

- 1150g magnet
- 40-3500Hz, 24Hz resonance
- 100W RMS power
- 80 litre enclosure rec.

CE2135.....\$89.50

AD12100 30cm (12")

Lower power handling than the AD12250, but a similar level of performance. Rubber surround.

- 1000g magnet
- 30-1200Hz, 19Hz resonance
- 40W RMS power
- 80 litre enclosure

CE2125.....\$57.50

AD80652 20cm (8")

Where a compact, high power system is needed, this is the woofer to use. Still high performance. Polyester surround.

- 450g magnet
- 50-5000Hz (Xover 2500Hz)
- 50W RMS
- 25 litre enclosure

CE2115.....\$26.50

AD70601 18cm (7")

Compact, high power woofer for bookshelf systems. Rubber surround.

- 260g magnet
- 40-3000Hz (Xover 3000Hz)
- 30W RMS
- 7 litre enclosure

CE2108.....\$23.50

AD5060 12cm (5")

The smallest woofer we carry. Suits really tiny systems—for boat or caravan or extension speakers.

- 230g magnet
- 50-5000Hz (Xover 5000Hz)
- 10W RMS
- 3 litre enclosure

CE2105.....\$17.50

Foster

C300L50 30cm

Beautiful looks—great sound. Features a diecast frame with beautiful raised aluminium surround. Polyester surround. Ribbed cone for extra rigidity and reduced distortion.

- 1067g magnet
- 29-3500Hz, 29Hz resonance
- 50W max.
- Voice coil 50mm diameter

CE2130.....\$75.00

C300L05 30cm

A more economical woofer, still with great performance. Cloth surround for long life.

- 370g magnet
- 25-3500Hz (resonance 25Hz)
- 50W max.
- Voice coil 25mm diameter

CE2120.....\$29.95

C200L09 20cm

A smaller version of the C300L05—with the same high quality from a smaller cabinet.

- 226g magnet
- 46-8000Hz (resonance 46Hz)
- 15W max.
- Voice coil 30mm diameter

CE2110.....\$12.00



midrange

Philips

AD02160 50mm dome

Exposed textile dome gives fantastic low distortion performance both on and off axis. Transient response is superb. As used in the ETI4000/1 4-way system. Sealed back.

- 650g magnet
- 40-100W system power
- 500-10,000Hz (320Hz resonance)
- 50mm voice coil

CE2085.....\$43.50

AD0210 50mm dome

Paper dome has less power handling than the cloth, but a similar standard of performance. Sealed back. Ultra-flat frequency response.

- 420g magnet
- 60W system power
- 550-5000Hz (350Hz resonance)
- 50mm voice coil

CE2082.....\$32.00

AD5060SQ8 12.5cm cone

Specially treated cone with cloth surround for low distortion and smooth frequency response. Acoustically loaded rear chamber makes cabinet construction easy—no separate enclosure needed.

- 230g magnet
- 60W system power
- 400-5000Hz (210Hz resonance)
- 50mm voice coil

CE2065.....\$26.50

Foster

D050M12 5cm dome

Designed to match the C300L50 woofer in appearance and sound. Cloth dome behind protective metal mesh with brushed aluminium surround.

- 698g magnet
- 50W system power
- 780-8000Hz (390Hz resonance)
- 50mm voice coil

CE2080.....\$32.00

C130M08 13cm cone

Cloth surround cone midrange with sealed chamber. Wide frequency and excellent polar responses.

- 226g magnet
- 60W system power
- 600-8000Hz (205Hz resonance)
- 25mm voice coil

CE2060.....\$18.00

C130M06 13cm cone

Economical unit designed for upper midrange use—ideal for use in systems with 20cm woofers. Very shallow for slim cabinets.

- 119g magnet
- 30W system power
- 1200-15000Hz (600Hz resonance)
- 25mm voice coil

CE2075.....\$11.50

edge!



tweeters

Philips AD01610T8 25mm dome

Philips best tweeter. Exposed textile dome for superior transient response and incredibly wide dispersion. As used in the ETI4000/1 4-way system.

- 240g magnet
- 750-22,000Hz (1250Hz resonance)
- 100W system power
- 25mm voice coil

CE203.....\$15.95

AD0162T8 25mm dome

Polycarbonate dome gives superior transient response and high sensitivity. The usual excellent dispersion of a dome tweeter.

- 240g magnet
- 2000-22,000Hz (1000Hz resonance)
- 80W system power
- 25mm voice coil

CE2010.....\$12.95

AD0140T8 25mm dome

Physically identical with the AD0162, but with a smaller magnet, lower power handling and slightly altered frequency response.

- 100g magnet
- 1600-20,000Hz (1200Hz resonance)
- 50W system power
- 25mm voice coil

CE2008.....\$11.95

Foster

E110T08

Unique regular phase design drives the entire diaphragm uniformly and completely in phase over the full frequency range. The performance of an electrostatic speaker with the ruggedness and ease of use of a dynamic.

- 91dB sensitivity
- 50W system power
- 5,000-40,000Hz
- No voice coil

CE2042.....\$36.50

H106N17 horn

The unrivalled efficiency of a horn transducer in a beautiful brushed aluminium housing. Matches the Foster dome and 30cm woofer both acoustically and physically.

- 99g magnet
- 50W system power
- 5-40kHz
- 16mm voice coil

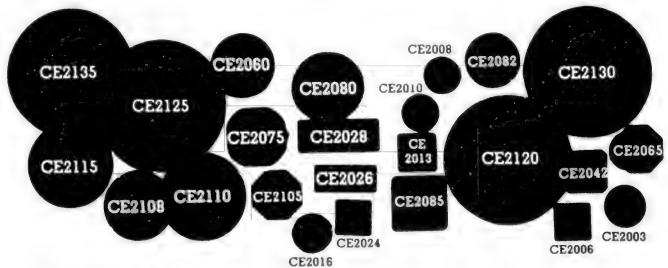
CE2016.....\$17.00

D025N15 25mm dome

Exposed cloth dome tweeter with ruler-flat response in its operating range. Wide dispersion and excellent transient response.

- 242g magnet
- 30W system power
- 2.6-22kHz (1300Hz resonance)
- 25mm voice coil

CE2006.....\$11.50



C050N08 50cm cone

Liquid cone edge for reduced cone break-up caused by standing waves. High sensitivity and smooth frequency response. Gives good performance with simple capacitor crossovers.

- 57g magnet
- 60W system power
- 3-20kHz
- 14mm voice coil

CE2003.....\$6.95

Piezo tweeters

Since Motorola first released these fantastic tweeters a few years ago they've become synonymous with high power, high efficiency high frequency. Unique piezo driving system needs no crossover and places virtually no load on the amplifier. No voice coil or magnet—just an incredibly light piezo driven diaphragm. With no crossover and almost no weight, transient response is unbelievable. Acoustic efficiency is 40-50%! Not bad when you consider that most cone speakers are lucky to get 2%. We carry three models to suit a range of applications.

KSW1005 90mm 'super-horn'

Perfect for use where long throw is needed: PA's and musical instrument use.

- 3.8-28kHz ± 3dB
- Max. input 25V RMS (100W amp power)

CE2024.....\$15.00

KSW1016 50×125mm rectangular

This exponential horn has a full 90° horizontal dispersion angle. With harmonic distortion of less than 1%, this unit is ideal for hi-fi use.

- 3-30kHz ± 3dB
- Max. input 25V RMS

CE2026.....\$17.50

KSW1025 50×150mm rectangular

Widest frequency range of the piezo horns, otherwise similar to the KSW1016.

- 2-25kHz ± 3dB
- Max. input 25V RMS

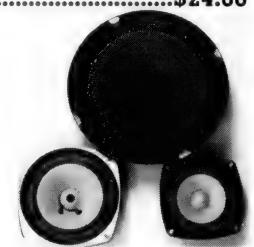
CE2028.....\$24.00

All Purpose MiniSpeaker

This little speaker is ideal for replacement in transistor radios and cassette players. It is also great for experimenters and hobbyists needing a small speaker.

CE2802.....\$1.99 1 to 9
\$1.50 10 up

Wide Range Speakers



C100K03 100mm 8 ohms

This compact wide range speaker is ideal where high quality is needed but where space is at a premium. Cloth surround and a long throw voice coil means a lot of punch from a small package.

Power handling.....10W Freq. Range.....80-17,000Hz
Magnet weight.....177g Voice coil dia.....20mm
CE2300.....\$8.95

C130K03 130mm 8 ohms

This driver is similar to the C100K03 but features a larger cone, increased power handling and more extended bass response. Cone material is specially treated paper and the unit features a long throw voice coil and hefty magnet structure.

Power handling.....12W Freq. Range.....70-17,000Hz
Magnet weight.....177g Voice coil dia.....25mm
CE2307.....\$9.50

200mm Economy Widerange 8 ohm

This speaker has high efficiency and is ideal for extension speaker and low level sound reinforcement use. The heavy magnet and dual cone result in wide frequency response.

Power handling.....10W Freq. Range.....60-18,000Hz
CE2325.....\$7.50 1 to 9, \$5.90 10 up

200mm Flush Mount White Plastic Grill

This grill suits the CE2325 speaker and simply clips over for neat and protective fitting. Ideal for protecting speakers set into walls or ceilings.

CE2748.....\$3.75

**TALKING OF
SPEAKERS**

Speaker accessories

Crossovers

A properly designed crossover network is essential for a multiway speaker system. Without it, you just won't get good performance: your treble will be distorted by bass components and your bass will be degraded by intermodulation distortion and cone break up.

These crossovers are all properly designed to channel only the frequencies that each driver can handle properly. To choose the right one for your needs, carefully read all our hints on this page on system design and use the specs listed with each speaker to build the right system for you.

Philips two way

This is the ADF1600/8 crossing over at 1600Hz. It's ideal for use with any of the 25mm dome tweeters in a two way system, or to upgrade a single speaker system to a two way.

• 1600Hz crossover • 6dB/oct low; 12dB/oct high slope • 8 ohms impedance • 40W power handling
CE2617.....

\$14.50 each

Philips three way

ADF500/4500/8.

With crossovers at 500 and 4500Hz this is ideal for three way systems built around any of the Philips woofers, midranges and tweeters. Also ideal for Foster.

• 500 & 4500Hz crossover • 6dB/oct low; 12dB/oct mid & high slope • 8 ohms impedance • 40W power handling
CE2620.....

\$24.50 each

ADF600/4000/8.

Similar to the above but with slightly different crossover points. Same applications. This model includes midrange and tweeter level controls for accurate adjustment of the system to your room's acoustics. Sold as a pair.

• 600 & 4000Hz crossover • 6dB/oct low; 12dB/oct mid & high slope • 8 ohms impedance • 40W power handling
CE2621.....

\$85.00 pair

ETI4000 series crossovers

These are the crossovers designed by David Tilbrook of ETI to go in their fabulous 4000 series speakers (see page 12 and 13 for full details of these great speakers).

ETI4000/1 4 way

This is the phase compensated crossover that's part of the key to the 4000/1's fantastic performance.

• 150Hz, 750Hz & 3kHz crossovers • 12dB/oct slope • 8 ohms impedance • 100W power handling
CE2637.....

\$170.00 pair

ETI4000/2 3 way Kit

The 12dB per octave constant-K design used in the 3-way 4000 series. Simpler and more economical than the four way, but giving optimum performance in three way systems.

• 700Hz & 3kHz crossovers • 100W power handling • 8 ohms impedance • 12dB/oct slope
KE2627.....

\$91.00 pair

Everything you ever wanted to know about speaker building*

What kind of system?

The first things to consider are: What volume do I need? What amplifier will I need? How much will I spend? To work out what volume you need you've got to consider the size of the room and the sort of levels you like. In a small bedroom where you only want background levels, a small system like a two way based on the Philips 125mm or 175mm would give you plenty of volume from almost any amplifier. But if you want to generate party volumes in a big room, you should start looking at a 3-way system based on either the Peerless, Philips, Foster or Coral 300mm woofers. A good rule of thumb is that the larger the system, the louder it will go with a given input. There's no point in building a great big system for a small room, because you'll never be able to use the extra quality and output.

The amplifier you use is mainly dictated by speaker efficiency, level required and quality. Don't use a low quality amplifier with high quality speakers unless you intend upgrading the amplifier—you'll just be disappointed. When building kit speakers (which cost about half what an equivalent built up system will), plan to spend about as much as you did for your commercial amp, or 1½ to two times what you spend on a kit amp.

On the question of what to spend, obviously you get what you pay for. We'll briefly run through the limitations and advantages of a number of systems. Once you've compared this with their price, you can decide what would be ideal. If you can't afford it now, often you can design a system that can easily be upgraded later when you can afford it—for instance you could build a simple box using a wide range speaker now, and when you're ready, fit a high quality two or three way system to the same boxes. You can cut the holes for the system now, and simply block them with scrap timber until you can afford the drivers—saving you the cost of building two full sets of cabinets.

What's the advantage of a multi way system?

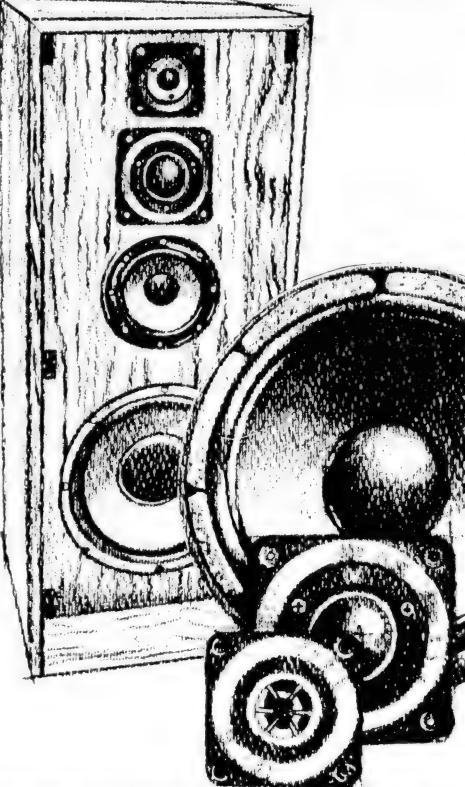
Inherent limitations in speakers mean that a single speaker just can't produce good solid bass and smooth crisp treble at once. It's too complex to go into here, but it's a fact of life with speakers. Wide range speakers go some of the way, but even the best of them can only produce acceptable bass and treble—never really good.

With a two or three way system, the speaker designer can optimise his design so that each speaker only has to cover a relatively small frequency range. Thus each speaker in a multi way design has been designed specifically for reproducing bass, midrange or treble sounds. A crossover network divides the incoming signal from the amp into the separate frequency ranges for each speaker. Don't build multi way systems without a crossover—they don't work.

The complexity of the crossover depends on the drivers used. For a simple two way system with a cone tweeter and woofer a simple capacitor is enough. For example a 3.3uF capacitor, a 200mm woofer and a 75mm cone tweeter gives reasonable sound quality at a very low price. Simply wire

the + terminal of the tweeter via the capacitor (use a green cap or bipolar electrolytic type only) to the + terminal of the woofer; the - terminal of the two together; then connect the amplifier to the two woofer terminals.

This sort of system is fine for moderate quality extension speakers etc., but for real quality you really need to use a properly designed crossover like the ones at the top of this page.



Choosing a multi way system

First you have to pick your drivers. Pick a woofer, tweeter and midrange with frequency ranges that overlap. Then you need to pick a crossover with crossover points near the middle of the overlap. So a system built around the Philips AD12250 woofer, AD02160 midrange and AD01610 tweeter should have crossover points at between 500Hz and 3500Hz (the lower limit of the midrange and the upper limit of the woofer respectively) and between 750 and 10,000Hz (the lower limit of the tweeter and the upper limit of the midrange respectively). These are both very broad ranges, so as you would guess almost any of our three-way crossovers would do an acceptable job. If you're observant though, you'll have noticed that we've got four 3-way crossovers—with prices from under \$10 to nearly \$50 each. Why the difference? Without going into detail, the quality of the crossover increases with price, and with it the quality of sound. If you were using drivers as expensive as these (they're among the best you can get!) it would be a waste of time to use the cheap crossover. If you want good sound you'll need good drivers and a good crossover.

Let's take a look at a simpler system. Take a Foster 200L09 with an upper frequency limit of 4000Hz, a Foster D025N15 dome tweeter with a lower limit of 2600Hz. That puts our crossover point between 2600Hz and 4000Hz. So a CE2614 crossover with a crossover frequency of 3.5kHz is ideal. A note on using dome tweeters: don't use a capacitor as a crossover with these—it'll blow up the tweeter because the crossover isn't sharp enough. What does 'sharp' mean? If you look at the crossover specs you see a thing that says something like '12dB/oct slope'. This is the rate at which the crossover feeds the sound to the two speakers. It doesn't simply stop everything above or below the crossover point—the change is gradual. Using a simple capacitor is very gradual: fine for many cone tweeters; disaster for a dome which is very susceptible to damage by frequencies below its lower frequency limit.

This two way system we've just designed would make a good quality 'bookshelf' type speaker system. It can be housed in a moderate sized cabinet and produce moderate levels. Don't expect phenomenal bass or volume from it though.

Using this simple method of matching speakers and crossovers, together with the specs for the speakers, you will be able to pick a system to suit your needs. Read the descriptions of the speakers as well, as they will tell you the characteristics of the speaker and often recommend combinations.

There are two other things to consider when designing your system: power handling and speaker sensitivity. Use speakers and crossovers with matching or similar power handling to each other and to the output of your amp. Midrange and tweeter power handling figures are 'system power' figures. A tweeter with a 40W rating cannot be connected directly to a 40W amplifier—the bass signals would destroy it. The 40W rating means you can use it with a 40W woofer and a proper 40W crossover—you can then connect this system to a 40W amplifier quite safely (as long as you're not running the amplifier at distorted levels or playing your electric guitar through it). System power assumes that you're playing normal music which has some bass and some treble—never all one or the other.

Speaker sensitivity simply means how loud the speaker will go for a given input level. Most tweeters are more sensitive than most woofers, so to match their levels many speaker designs include a tweeter level control to let you adjust the outputs of the two. This also lets you adjust the level so that the system sounds right in the acoustics of your room: rooms with a lot of hard surfaces will make treble sound 'brighter', while rooms that have a lot of carpets, drapes etc. will make it sound 'dull'. Midrange and tweeter level controls let you adjust your system to suit the 'sound' of your room.

Economy crossovers

Simpler, more economical crossovers for less demanding use. Both are still, however, true LC networks for proper frequency distribution.

2-way

- 3.5kHz crossover • 60W power handling • 8 ohms impedance • 6dB/oct low, 12dB/oct high slopes

CE2614.....

\$5.50 each

3-way

- 3.5kHz crossover • 60W power handling • 8 ohms impedance • 6dB/oct low, 12dB/oct mid & high slopes

CE2615.....

\$9.50 each

Grill Cloth

High quality, acoustically transparent grill cloth is ideal for protecting those expensive drivers—but making sure all the sound gets through. Comes in a 1.5 x 1 metre roll. Black in colour.

CE2752.....

\$9.50

CE2806.....

\$7.95

7-Way Speaker Switch

This stereo speaker switch will enable you to select any combination of three pairs of speakers. Comes complete with wall plate. Has easy to connect screw terminals. Full instructions supplied.

CE2806.....

\$7.95

What size box?

For that matter, why have a box at all? A speaker radiates sound from the front and the back, but the sound from the back is out of phase (that is back to front) with the sound from the front. If a speaker is used without a box, these out of phase signals cancel out, giving weak bass. Simply put, if sound is being pushed from the front and pulled from the back at equal levels, the pushing and pulling get the sound nowhere (if you've ever been in a tug of war you'll know what I mean).

The function of the box then is to get rid of the wave from the back of the speaker so that it can't cancel the wave we want from the front. You might have seen boxes with holes in the front panel (or baffle). These holes or 'ports' are very carefully designed (usually with the help of a computer) to bring the rear wave out in phase with the front wave. These 'bass reflex' designs are therefore more sensitive than a completely sealed box (called 'acoustic suspension' or 'infinite baffle'). There is no easy way to design a bass reflex cabinet, and if they're not designed properly they sound terrible. Sealed boxes are by far the most suitable for the constructor, because the size and shape of the cabinet can be just about anything you like—and it will still sound good.

Back to the question of size. The great thing about sealed boxes is that they can have such a wide range of sizes and still work well. As a rough rule of thumb, 200mm woofers work well in a 25-30 litre box; 250mm woofers work well in a 45-55 litre box and 300mm woofers work well in 65-85 litre box. This applies to modern low resonance woofers (like all of ours!). The larger the box, the better the bass, because the larger volume of air in the cabinet lets the speaker move more freely. If the box gets too big however, your power handling will drop, because if there's a lot of air in the box, the speaker cone will move too far and damage itself.

To calculate the size of a box in litres, multiply its internal dimensions in centimetres (length x width x height) and divide by 1,000. So a box that's 60cm high x 40cm wide x 30cm deep will have a volume of 72 litres—a good size for a 600mm woofer. Don't forget that you must use internal dimensions—deduct the thickness of timber from external dimensions. One more thing about size—proportions. Some of the mathematical types will have thought 'Why not just multiply your volume by 1,000 and find the cube root?'—this would work, but you'd have a cubical box—which will give you problems. None of the three dimensions should be the same, nor should any one of them be more than three times any other. The reasons for this are that because there are sound waves bouncing around in the box (from the back of the speaker, remember?) the box will have an effect on these waves. At certain frequencies the dimensions will match with the wavelength of the sound waves causing them to bounce out of phase with the front waves from the speaker (yes, they'll push right through the cone!). This will give you a boomy 'boom' in your bass response. At other frequencies, the waves will be exactly out of phase with the front wave and you'll get a 'dip' in the response. Obviously, if all the box's dimensions are the same, this will happen at the same frequency with waves travelling in every direction. When the dimensions are different, the different 'standing waves' (as they're called) will tend to cancel out. This is also the reason for lining the cabinet with 'Innerbond' lining. This absorbs the sound in the box, rather than letting it bounce off the sides, and further reduces the problem of standing waves.

Velcro Tape

This tape is ideal for holding grills on speakers. One side is glued or stapled to the box and one to the grill. The grill then 'sticks' to the box. Comes as a packet of two rolls 300mm long.

CE2763.....

\$1.50

Innerbond

Innerbond is the ideal substance for lining the insides of speaker cabinets. It has excellent damping properties and is clean and non-irritating, unlike many substitutes. Use the best! Comes on a roll approximately 900mm wide. Thickness is 25mm.

CE2764.....

\$3.50 (metre)

100Watt Fader

This is a really high power unit ideal for PA applications or for remote speakers where a high powered amplifier is being used. Constant impedance design is suited to 8 ohm systems. Has heavy ceramic body and wirewound element.

CE8205.....

\$8.95

Speaker Sealant

This is a special non-hardening sealing compound, ideal for getting a really airtight seal between drivers and cabinets. This is vital with the acoustic suspension designs popular today. 2 metre roll.

CE2762.....

\$2.00 1 to 9, \$1.50 10 up

How do I make the box?

The first thing is to choose your material. The best materials for speaker cabinets are particleboard and plywood. You might be surprised to find that solid timber is not as good. It's because the grain of the timber gives it a 'resonance'—it will vibrate at certain frequencies. We want our box to absorb the sound, not vibrate with it. Particleboard, with its random structure does not resonate readily as solid timber. Plywood is best for musical speakers as it is more durable than particleboard.

Two things are very important when making your box: it must be solid and it must be airtight. Use material that's at least 18mm thick, put glued battens of 25 x 25mm timber along all joints and put braces made of 75 x 25mm timber glued on edge across the middle of any panels more than 400 x 600mm. Glue all joints, seal any terminals or wires on the back panel using Silastic or similar. Cut your speaker holes accurately and use some speaker sealant (CE2762) around the edge of the speaker to make sure no air leaks out around it.



L-pads

These function as a volume control directly at the speaker. They are similar to regular potentiometers, but differ in that they present a constant load to the amplifier or crossover (important to maintain crossover performance).

Mono L-Pad

This constant impedance L-Pad is ideal for controlling the level of remote speakers, or of tweeters or midrange speakers in a multiway system. Power handling is 30 watts peak. The pad is designed to work with 8 ohm speakers. Full instructions.

CE8202.....

\$5.95

Stereo L-Pad

This is a stereo version of the above control. Ensures constant impedance as seen by amplifier or crossover while giving attenuation of up to 30dB.

CE8203.....

\$7.50

These units are designed for midrange and tweeter controls on multiway speaker systems. They are suitable for systems up to 80W power handling capacity. They present a constant 8 ohms impedance to the load, and so do not disturb the crossover points. Both units come with fully air sealed mounting plates and are labelled 'MID' and 'HIGH' respectively.

CE8208.....

Midrange.....

\$5.95

CE8210.....

Highrange.....

\$5.95

If you want to know more

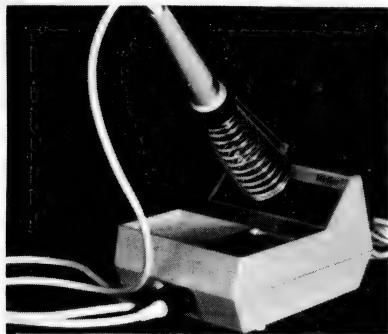
This is about all the information we can fit into this catalogue—it should be plenty to get you started. To find out more—if you're uncertain about which drivers to use or what size box to put them in, please feel free to call in at our store, or phone us on (02) 745 3077 for some helpful advice. Another good source of information is the book 'Building Hi-Fi Speaker Systems' by Philips (Cat. BE3010 \$9.50) which has a wealth of information on every aspect of speaker system design and construction, including a selection of recommended designs based on Philips speakers.

*** but were afraid to ask!**

HERE'S HOW TO DO IT YOURSELF

Tools & service aids

Start with a good soldering iron



Weller WTCPN Solder station

One of the best soldering irons money can buy. The Weller WTCPN uses an advanced temperature control system based on the Curie temperature of a magnet built in to the tip. To change temperatures, simply change tips. Low voltage transformer isolation means complete safety and the design ensures minimal leakage voltages at the tip—makes this iron perfectly safe for use with static-sensitive ICs. Station comes complete with iron, tip, sponge and integral tip storage tray. The base houses the transformer, power switch and a stand for the iron. The ultimate for the professional or serious hobbyist.

Cat. TE3105.....\$65.00
Spare tips. Tips all one price. \$3.25 each

Single flat 3mm

TE3125.....PTCC6 315°C Double flat 1.5mm
TE3130.....PTCC7 370°C TE3110.....PTA6 315°C
TE3135.....PTCC8 430°C Tips all one price. \$3.25 each
TE3145 Replacement sponge TE3115.....PTA7 370°C
for WTCPN.....\$1.30 TE3120.....PTA8 430°C

Weller cordless

The compact iron for the toolbox. 15W NiCad gives you instant heat anywhere, anytime. A touch of the button gives you 370°C in seconds. Built in light for tight in-chassis work. Includes iron, tip and charger.

TE3103.....\$32.50

12V 15W economy iron

Ideal for light duty automotive use or field repairs. At this price an iron in your car, boat or caravan is cheap insurance against failed joints.

TE3600.....\$3.95
TE3605.....Replacement tip to suit.....\$0.60

Miniscope Superspeed

More compact 75W version of the Superspeed. Fingertip temperature control lets you do every soldering job from ICs to chassis connections. Use the TE3341 transformer for best performance.

TE3327.....\$26.50

Scope Superspeed

The famous low voltage instant heat iron that's the equivalent of a 150W conventional iron. A touch on the barrel mounted ring gives full soldering temperature in 6 seconds. Intermittent operation of the ring gives you the right temperature for any soldering job—instantly. Operates from 3-12V AC or DC. For optimum performance use the special iron transformer Cat. TE3341 (see below).

TE3305.....\$19.95



Soldering iron transformer

Suits both Scope irons. 3.3V AC at up to 30A (intermittent use)

TE3341.....\$21.50

Soldering iron stand

Holds virtually any iron for convenient use. Includes tip wiping sponge.

TE3315.....\$5.95



Miniscope Superspeed

Tip TE3329 0.60
Barrel TE3331 6.50
Element TE3333 0.60
Push rod assembly TE3335 4.95
Flexible lead TE3337 7.50

Adcola quality

Three irons—from the economical S30 and S50 for general hobbyist use to the fantastic 'Thermatic' T30 for the ultimate in compact, full variable temperature control. All 240V AC.

TE3500 Thermatic T30 200-400°C 3mm tip 40W \$39.50

TE3510 S30 Standard 370°C 3mm tip 13W \$15.00

TE3520 S50 Standard 370°C 5mm tip 18W \$19.50

Spare tips for Adcola
TE3530 Suit T30.....\$2.95
TE3535 Suit S30.....\$1.95
TE3520 Suit S50.....\$2.00

Lotring 30 watt

A top quality iron for a reasonable price. An ideal iron for general purpose household and hobbyist use. Compare this one with cheaper irons and you'll agree that it's great value. 240VAC 30 Watt.

TE3400.....\$13.95

TE3410 Replacement tip fine.....\$0.95

TE3415 Replacement tip broad.....\$0.95



Mico irons

Australian made, super light low voltage irons. Anodised aluminium barrel is colour coded to the voltage. Two wattages: 10W for PCB and light electronic use; 20W for heavier tagstrip and connector work. Variety of tips for all uses. Use a TE3341 transformer with the 4V irons for mains operation. 12V models are ideal for car or boat use.

TE3710.....4V 10W.....\$14.95

TE3712.....6V 10W.....\$14.95

TE3714.....12V 10W.....\$14.95

TE3720.....'A' tip.....\$ 0.90

TE3724.....'B' tip.....\$ 0.90

TE3728.....Ultra fine tip.....\$ 0.90

TE3734.....4V 20W.....\$17.95

TE3736.....6V 20W.....\$17.95

TE3738.....12V 20W.....\$17.95

TE3744.....'A' tip.....\$ 1.50

TE3748.....5mm tip.....\$ 1.50

Superglue

NE4324.....small tube.....\$2.25

Insulation tape

PVC tape for general insulation use. Variety of colours.

NE4094.....price per roll.....29c 1-9 25c 10up

Heatsink clamps

Essential for protection of delicate parts from heat damage. Two models: Economy pack of two for transistors etc. TE4010. Pack of 2.....\$1.50

Deluxe Xcelite clamp to protect delicate parts being soldered to heavy joints—where a lot of excess heat must be absorbed.

TE4015.....\$2.95

Solder aids make soldering easier

A kit of everything you need to clean parts, ream holes and ensure solid joints. Includes: Guide fork tool, reamer, knife point, scribe, heatsink clip and stainless steel brush. TE4005.....\$4.95

Save on Solder

The highest quality Multicore Savbit solder. Five cores of flux for perfect joint wetting and a small percentage of copper to extend tip life. Two gauges, two pack sizes.

1.25mm 200g reel NE4723.....\$4.95

0.71mm 200g reel NE4727.....\$4.95

1.25mm hobby pack NE4742.....\$1.00

0.71mm hobby pack NE4740.....\$1.00

Service sprays

Aerosol packs to make life easier. All are top quality products by CRC and Electrolube.

CRC 2-26 lubricant/penetrant 175g NE4114.....\$2.50

CRC 2-26 400g NE4116.....\$5.20

CRC Contact Cleaner 175g NE4119.....\$3.75

CRC Freeze-it 300g NE4124.....\$3.85

Electrolube protective lacquer NE4139.....\$6.95

Electrolube lubricant pen (not spray) NE4134.....\$3.50

Matt black spray paint NE4074.....\$2.95

Quality screwdrivers

If you've bought cheap screwdrivers before, you'll know why we're carrying this Fuller Super quality range. All feature large indestructible handles, hardened and tempered forged steel blades, fully ground for a perfect fit. Sizes are given as blade length x tip width in mm.

TE3510	53 x 3.2 pocket type\$1.10
TE3515	53 x 3.2.....	\$0.95
TE3520	100 x 4.8.....	\$1.30
TE3525	150 x 4.8.....	\$1.40
TE3530	100 x 6.3.....	\$1.90
TE3535	125 x 6.3.....	\$1.95
TE3540	150 x 6.3.....	\$1.95
SE5305	150 x 7.9.....	\$2.85
TE3570	38 x 6.3 Stubby.....	\$1.50
Philips type		
TE3530	Size 0 63 x 3.2.....	\$1.05
TE3535	Size 1 75 x 4.8.....	\$1.90
TE3560	Size 2 100 x 6.3.....	\$2.50
TES365	Size 2 38 x 6.3 Stubby.....	\$2.35

Wire wrap/stripper tool

This is no ordinary cheap-and-nasty unit. From OK in the USA this solid tool cleanly strips and securely wraps TE4752.....\$9.50

IC insertion tool

Another great OK tool. This one has a spring action that straightens and inserts IC pins smoothly and simply into sockets or PCBs. Suits 14 and 16 pin DIL packages. TE6745.....\$4.95

Hole cutter

Another American made tool. This bit attaches to an electric drill and cleanly cuts holes in most materials (instructions included) from 23mm to over 100mm diameter. Includes Allen key to tighten locking nut. TE6697.....\$6.90

Chassis punch set

The only way to cut large, clean holes in sheet metals. Sizes are 16, 18, 20, 25, 30mm. 12mm tapered reamer with tommy bar included. TE7009.....\$15.00

Tapered Reamer

Holes too small? Ream 'em out! This heat-treated steel tool will enlarge holes from 4 to 22mm. Also ideal for removing drill swarf from holes. Includes tommy bar. TE7015.....\$3.25

Nibbling tool

Cuts straight or curved holes in sheet metal (up to 0.3mm steel or 1.5mm aluminium). Also ideal for plastics. TE7035.....\$12.50

Allen key set

The only tool for recessed hex head bolts. These fasteners are appearing on many imported products these days. Metric sizes: 1.4, 1.5, 2, 2.4, 2.5, 3 and 4mm. TE8090.....\$1.50

Pin Vice

Used for holding small drill bits, reamers etc. Great for enlarging undersized PC holes (use our TE6825 bit). TE9010 Double ended.....\$5.95

Utility knife

Complete with blades.

TE9115.....\$2.25

test equipment

UniVolt DT-810

Affordable quality—that's the UniVolt DT-810 digital multimeter's aim. With 17 ranges covering AC and DC voltage, DC current, resistance, diode and transistor test. With a large 3 1/2 digit LC display, auto polarity indication, 10Mohm input impedance and compact, one hand operation, the DT-810 is the ideal low cost digital multimeter.

QE5227.....



QE5283 Case to suit..... \$4.95

QE5287 hFE probe to suit..... \$3.95

\$99.00

130mm 6.5MHz Scope

If you thought you couldn't afford a really top quality oscilloscope—think again. This 6.5MHz bandwidth single trace model by Goodwill brings waveform observation within the reach of virtually anyone. If you've seen or heard about cheap CROs with fuzzy traces, inaccurate timebases or poor triggering, don't get this model confused with them. For an unbiased opinion on the Goodwill, see the review in May 1981 Electronics Australia.

Specifications:

Bandwidth 6.5MHz

Sensitivity 10mV/div

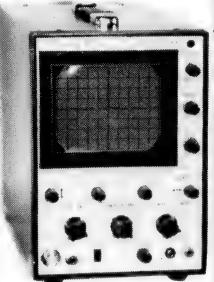
Vert. gain 3 stage

attenuator plus calibrate

and ground.

×15 continuous

gain control



Timebase 4 ranges from 10Hz to 100kHz plus continuous sweep variation control

X-Y operation sensitivity 250mV

Dimensions 240 x 180 x 415mm

QE5487.....

\$265.00

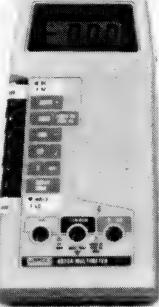
Fluke 8022A

Since the first model appeared several years ago, Fluke handheld digital multimeters have set the standard. The reason? Fluke's total dedication to building instruments that are easy and safe to operate, totally reliable and incredibly durable.

The 8022A is a 3 1/2 digit instrument with a basic DC accuracy of 0.25%, LCD display, complete overload protection, safety-designed test leads and six functions: AC and DC voltage, AC and DC current, resistance and diode test. 24 ranges in all. Come and have a look at the Fluke 8022A before you buy another DMM—you'll find out how Fluke earned their reputation.

QE5225.....

\$169.90



Audio Generator MG100

This fully transistorized audio generator provides excellent frequency stability.

Brief Specification:

Frequency ranges: Sine, 19Hz to 220KHz in four bands

Square, 19 to 100KHz

Calibration accuracy: Plus/minus 2% +1Hz

Distortion: Less than 1%

Output: 10V P-P Square, 10V P-P

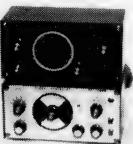
Power Supply: 220-240V AC

Dimensions: 180 x 90 x 90mm

Weight: 1.2kg

QE5512.....

\$115.00



Signal Generator SG2030

This unit matches the MG100 in size and performance and provides a similar high level of value for money. Used with a crystal, the built-in calibration device provides a high degree of frequency accuracy.

Brief Specification:

Frequency ranges: 250KHz to 100MHz on 6 fundamental bands

100MHz to 300MHz on harmonics.

Calibration accuracy: Plus or minus 0.01%

Output: Internal, at 1000Hz, depth variable

± 10% to 60%

Output: Max 0.1V (RMS)

Output: 1kHz, 0.5V (RMS)

Power supply: 220-240V AC

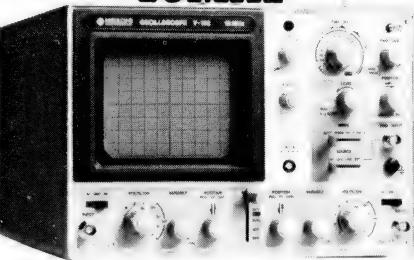
Dimensions: 180 x 90 x 100mm

Weight: 1.1kg

QE5515.....

\$119.00

130mm dual trace 15MHz



This is the professional model—for service, development or serious hobbyist use. Performance is superior to many higher priced CROs. Made in Japan by Hitachi Denshi Ltd to exacting standards of quality.

Vert. 5mV/div to 5V/div in 10

Sensitivity ranges

Bandwidth DC to 15MHz (-3dB)

Display Ch1, Ch2, dual, add and modes difference

Sweep time 0.2μs to 0.2S/div in 19 steps

Dimensions 275 x 190 x 400mm

QE5492.....

Phone or write for full specifications

\$638.00

Logic Probe

If your experimenting or service work takes you into digital circuitry or computers then a good logic probe is a must, and ours is a top performer. Take a look at these specs.

Compatible with DTL, TTL, and CMOS.

Frequency response DC to 10MHz

Hi(red)/Lo(green) LEDs minimize reading errors.

High input impedance (150kohms)

Pulse/memory mode detects 30 nanoseconds

Input protected up to 20V peak

QE5477.....

\$22.95

Precision Panel Meters

These meters feature precision (2%) moving coil movements and screws for zero adjustment.

Dimensions Overall 58mm(W) x 52mm(H)

Scale 58mm(W) x 31mm(H)

44mm

Mounting hole

QE6518 0.5mA (1400 ohms)..... \$8.50

QE6508 0.1mA (120 ohms)..... \$8.50

QE6528 0.5A (3 ohms)..... \$8.50

QE6538 0.20V (100 ohms)..... \$8.50

QE6548 VU (0dB = 1mW/600ohm)..... \$8.95



MU65 Range

Same as MU45 but dimensions as below.

Dimensions Overall 100mm(W) x 82mm(H)

Scale 100mm(W) x 50mm(H)

63mm

Mounting hole

QE6558 0.1mA (120 ohms)..... \$12.50

QE6568 0.100A (1400 ohms)..... \$12.50



Miniature Edge Meters

Has scale graduated from 0 to 10. Scale is 32mm(W) x 10mm(H). Hole cutout 35 x 15mm.

QE6612.....

\$4.50

Signal strength and Tuning Meters

These are the meters used in the Playmaster Tuner. Suitable for backlighting. Scale and hole cutout 35mm(W) x 15mm(H)

QE6602 Signal Strength..... \$4.50

QE6593 Tuning Centre Zero..... \$4.95



Stereo VU Meter

Ideal for fitting to tape decks, preamps.

Rear mounting.

Resistance: 650 ohms

Sensitivity: 500μA full scale

QE6553.....

\$5.00

Moving Iron Meters

These tough meters will read AC and DC with no extra parts.

Dimensions Overall 55mm(W) x 58mm(H)

Scale 55mm(W) x 32mm(H)

45mm

Hole

QE6578 0-20V AC or DC..... \$7.50

QE6598 0-10A AC or DC..... \$7.50



Metal Detector Meter

This is the meter used in the ETI high performance metal detector.

QE6652.....

\$17.50



AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

Brief Specification:

Ranges

Resistance: 0.1ohm to 11.1Mohm

Inductance: 1uH to 111H

Capacitance: 10pF to 1110uf

Turns ratio: 1/10000 to 1:11100

Power supply: 9V (216 battery)

Dimensions and weight: 128 x 182 x 75mm 1000g

QE5517.....

\$79.50

AC Bridge BR-8

With our AC Bridge you can quickly and accurately measure inductance, capacitance, resistance. Other uses include checking transformer turns ratios.

CBs & accessories, microphones,

UHF CB



The famous Philips FM320 gives a superb performance on all 40 channels of the UHF CB band. Look

at these features:

- 40 channel FM operation
- 5 watt output power
- 11-16.5V DC operation @ 300mA (receive) 1.5A transmit
- Convenient remote channel switching from handheld microphone
- Auto return to call channel & preselected channel

DE2801.....\$329.00

Antennas to suit UHF Home base

The CB470 is a 2.7m high gain antenna for base station use.

DE2805.....\$99.00

Mobile

The CB410 is a 900mm high gain whip for vehicle use.

DE2803.....\$19.99

27MHz antennas

A range of antennas to suit any CB or Marine installation. Remember, as a rough guide, the longer the antenna the better the performance.

Home base 'Ringo'—superior ground wave. The highest gain antenna legally usable for CB or Marine base station use.

DE3006.....\$59.00

Helical whips

No base supplied (use one of the bases below). 5/16" Australian, female thread.

900mm helical DE3017.....\$12.50
1500mm helical DE3019.....\$16.50
1500mm tunable DE3021.....\$18.50
1800mm helical DE3025.....\$18.50

Mobile antenna bases—

use with above whips. Male 5/16" thread

Standard DE3057.....\$4.50

Magnetic w/cable

3/8" female thread DE3061.....\$19.50

Slope adjustable DE3014.....\$5.50

Swivel ball DE3503.....\$8.90

Antenna mounts (use with DE3017 base)

Gutter grip HD DE6102.....\$9.50

Mirror/roof rack DE3511.....\$9.50

Roof rack complete DE3522.....\$9.50

Trunk lip mount DE3517.....\$6.50

RF chokes

For use in amateur projects—receivers, early stages of transmitters etc.

Small signal use.

10uH LE3010.....\$1.00

15uH LE3015.....\$1.50

22uH LE3022.....\$1.90

33uH LE3033.....\$1.90

39uH LE3039.....\$1.90

47uH LE3047.....\$2.00

68uH LE3068.....\$2.40

82uH LE3082.....\$2.50

Ferrite parts and aerial coils

Miniature aerial rod and coil

LE0520.....\$1.50

F16 Ferrite core pack 4

LE0504.....\$0.75

Balun former 105D/2/F29

LE0554.....\$0.75

Aerial rod 194 x 9mm

LE0603.....\$1.50

Ferrite beads FX1115

LE0632.....\$0.15

Potcore FX2242 pair

LE0638.....\$5.95

Former to suit above

LE0639.....\$0.35

IF Transformer Denco 18/1.6

LE0707.....\$6.50

Coil former grooved 18 x 60mm

LE0712.....\$0.85

Coil former plain 18 x 60mm

LE0717.....\$0.65

Audio Chokes

These are designed for use in loudspeaker crossovers. Top quality, wound with high current, low resistance enamelled wire.

0.5mH LE0807.....\$3.50

1mH LE0812.....\$5.95

2.4mH LE0827.....\$7.50

27MHz CB



Here's a top quality 18 channel AM rig for the CB enthusiast. All the features you've come to expect from Pearce-Simpson, one of the world's leaders in communications technology. Full legal output power of 4 watts (5 watts input). Features like an inbuilt RF gain control, TX/RX indicators, automatic noise limiter and noise blanker circuits. It has a CB/PA speaker. Bright, sharp LED digital readout of channel and S/Power meter. Comes complete with microphone, mounting bracket and complete instructions. Start hauling in those QSOs—move up to the Super Lynx.

DE0751.....\$139.00



27MHz walkie talkie 5W 6 channel

Ideal for Marine, bushwalking, surf life-saving use. Complete with leatherette case and 1 channel crystal fitted (normally 27.88MHz). Sturdy chromed metal case with telescopic whip. Uses 8 x AA cells.

DE0731.....\$120.00

CB antenna accessories

Layover—lets you lie your antenna on its side. 3/8" thread.

DE3507.....\$6.95

Adaptors to convert US 3/8" thread to Australian 5/16" thread.

Double male DE3505.....\$1.50

Double female DE3506.....\$1.50

3.6m lead, PL259

plug one end DE3061.....\$4.50

35cm patch lead, PL259 both ends DE3066.....\$3.50

Power leads All one price: \$2.50 each

3 pin CB DE9103

2 pin Large DE9107

2 pin Small DE9108

Economy CB antennas

Both of these little beauties come complete with cable and PL259 plug for instant installation. Easily moved from car to car. No holes to drill! Packed in a convenient bubble pack.

Magnetic mount DE3011.....\$19.50

Gutter grip DE3015.....\$19.50

Marine antenna

Scalar CB13 27MHz marine antenna for unsurpassed performance on timber and fibreglass boats needs no ground plane! Sturdy chrome plated brass base swivels. Complete with lead and plug and tuning coil. Aerial is made of heavy duty fibreglass.

DE3073.....\$69.00

TV game



Fantastic 4 game black & white TV game. Plays tennis, squash, hockey, soccer and practice. Two ball speeds, two serve angles & two bat sizes. Works on all B&W and colour TVs with balun supplied. Absolutely complete with master controller, detachable remote controller, plugpack power supply and balun. Don't buy similarly priced units lacking all these features!

YE0172.....\$25.95

Pushbutton phone dialler

Tired of wasting time dialling your phone? This dialler simply connects to any standard phone in minutes (no soldering—instructions supplied). Includes memory and LED indicator to check dialling.

YE0250.....\$39.50

Note: Present regulations do not permit use of this device on Telecom phones.

YE0172.....\$25.95

Light dimmer

Are your lights so bright that you need to wear sunglasses? Or so dim that you can hardly see where you're going? Fit a dimmer! Easily fitted in any standard light switch. All parts included (even two switch plates) and simple instructions. Fully suppressed against interferences.

YE0024.....\$7.90

Microphones & accessories

ECM541 FM electret

No more cords! This incredibly clear microphone has a built-in FM transmitter that can be picked up by any FM receiver. The signal can then be amplified for PA etc. Range is up to 30m. Frequency response is wide and flat. Also usable as a conventional mike with the supplied cable (saves power). Includes windscreen.

CE0037.....\$27.50



WMI Economy FM electret

Like the ECM541 this microphone also works on the FM band. Operating distance is up to 15 metres. Power is by two internal penlight cells. The lightweight tiny case weighs only 65 grams.

CE0047.....\$13.50



Unidirectional dynamic

High quality dual impedance (50k & 600 ohm) microphone with a smooth response from 50-15,000Hz making it ideal for PA and recording use. Beautiful satin chrome finished die-cast zinc case with integral chrome plated mesh pop filter for years of rugged use. 6m cable with plug & stand adaptor supplied.

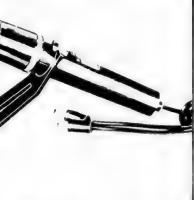
CE0032.....\$27.50



Omnidirectional dynamic

Compact, low priced microphone ideal for use with portable cassette recorders. Includes remote on-off switch and two plugs. Response 100-10,000Hz, low impedance. Includes clip-on desk stand. Only 23.5mm diameter x 114mm long. 3.5mm jack plug on signal, 2.5mm jack plug for remote.

CE0017.....\$4.95



Crystal lapel mike

Super economical microphone for less demanding use. High output will directly drive line inputs. Extremely rugged & lightweight. Also useful for many experimental uses: sound triggered switches etc. 200-8,000Hz, omnidirectional. Cable supplied.

CE0012.....\$2.95



Communications microphone

This quality hand held mike with push-to-talk switch and coiled cable suits CB replacement or other communications use.

CE0104.....\$9.50



Electret mike insert

Tiny microphone insert for replacement or experimenter use. Operates from a single 1.5 volt battery, only 10mm diameter. Full instructions included.

CE0162.....\$2.45

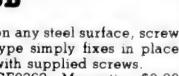


Mike holders—CB

Two holders to mount your CB or amateur microphone in your car, boat etc. Magnetic type sticks

CE0262...Magnetic.....\$0.90

CE0264...Screw-in.....\$0.60



computer hardware & software

COMPUTER HARDWARE

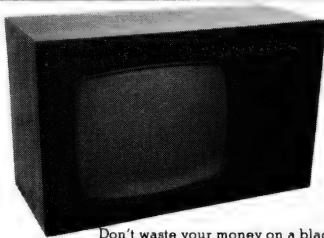
There is now a huge number of personal computers on the market—often difficult to differentiate. We've been looking at the computer market for some time now, and have experimented with selling a number of brands. None of them stands out as being the right computer for everyone.

Because we can't stock several computers and continue to offer our customers good prices; and because no **one** computer can possibly satisfy everyone's needs, we're not advertising a computer in this catalogue.

What we would like our customers to do is this: let us know what you need in a computer and which computers you would like to see us stock. And before you buy a computer, contact us—we can currently obtain several brands of computer and by the time you're ready to buy we may have found the right computer for you.

So don't be swayed by the hype that's put out about computers.

Because we're completely independent of any of the computer manufacturers and importers, we're able to offer you, our customer, unbiased advice and a wide selection.



**30cm
Green-
screen**

Don't waste your money on a black and white monitor when for the same price you can have a professional Green-screen. Other Green-screens sell for \$50 more! XE2000 Suits any computer.

ONLY \$149

These are not in stock at time of printing. Appearance may vary from the model.

Computer cassettes

Top quality ten minute tape ideal for use with cassette-based shown. Please phone to check details and availability

XE2000.....\$1.70.....\$1.50 10 up

Soft-sector diskettes

5 1/4" soft-sector diskette suits Tandy, Pertec and other disk drives.

XE3890.....\$4.95

COMPUTER SOFTWARE

Top quality software to suit the System 80, TRS 80 and Sorcerer computers. All are supplied on cassette with full instructions. For full details of these fantastic programs—simply phone or write.

System 80

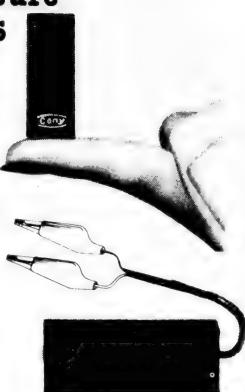
Flash	XE5000	\$11.95
Isec/Mastermind	XE5003	\$15.95
Galaxy Raid	XE5005	\$12.95
Match Cards	XE5010	\$11.95
L/B Poker	XE5013	\$12.95
Fastgammon	XE5015	\$21.95
Rummy Master	XE5018	\$12.95
System 80 Disassembler	XE5030	\$15.95
System 80 Debug	XE5035	\$15.95

Sorcerer

Music	XE8010	\$54.95
Fantasia	XE8012	\$5.00
Eleanor Rigby	XE8013	\$5.00
Maple Leaf	XE8014	\$5.00
legu's Joy	XE8015	\$5.00
Ode to Joy	XE8016	\$5.00
The Sting	XE8017	\$5.00
Boosie Woosie	XE8018	\$5.00
Finnlandia	XE8019	\$5.00
Piano Player	XE8025	\$15.95
Graphics 1	XE8029	\$25.95
Graphics 2	XE8031	\$25.95
Sorcerer Disassembler	XE8035	\$21.95
CADAS VII	XE8040	\$35.95
Super-X	XE8043	\$35.95
Screen Genie	XE8047	\$15.95
Cassette Files	XE8050	\$15.95
Graphic Design	XE8053	\$15.95

Machine Code Tutorial	XE8057	\$24.95
BASIC Tutorial	XE8060	\$24.95
Statplot	XE8062	\$15.95
Polyplot	XE8064	\$15.95
Function Plot	XE8066	\$10.95
System Co-ordinates	XE8072	\$9.95
Biorhythms	XE8075	\$10.95
Baseball	XE8080	\$15.95
Galaxians	XE8085	\$19.95
Space Invaders	XE8090	\$15.95
Asteroids	XE8095	\$21.95
Action Bowling	XE8098	\$19.95
Touchdown	XE9010	\$15.95
Submarine	XE9015	\$10.95
Lunar Lander	XE9018	\$11.95
Doodle	XE9020	\$10.95
Salvo	XE9023	\$10.95
Punt	XE9027	\$11.95
Blackjack	XE9030	\$9.95
Personality Test	XE9033	\$10.95
Compucards	XE9036	\$10.95
X-Nim	XE9039	\$15.95
Concentration	XE9042	\$12.95
Chuck	XE9044	\$9.95
Artillery	XE9046	\$12.95
Othello	XE9048	\$12.95
Qubic	XE9050	\$12.95
Rabbit Hunt	XE9052	\$10.95
Jail-Break	XE9054	\$11.95
Space-Trek	XE9056	\$15.95
Star Trek	XE9058	\$15.95
Home Run	XE9060	\$15.95
Noughts and Crosses	XE9062	\$10.95
Atom	XE9064	\$10.95
Kiddo	XE9066	\$10.95
Mystery Maze	XE9068	\$12.95

Ultra miniature transmitters



Two miniature FM transmitters that can be picked up on any standard FM radio. The X-8 is a completely self-contained unit just 12 x 33 x 9mm with a tiny inbuilt microphone. Range is up to 400 metres, operates on a single mercury cell. XE0052.....\$149.00

XE018/A is a miniature (12 x 9mm) transmitter that connects directly to a telephone line. No battery or antenna is required, range up to 300 metres. XE0057.....\$129.00

ESPECIAL NOTE: Present regulations do not permit the use of these devices in their connection to Telecom phone lines.

Slide mount

Makes your CB or marine radio easily removable to prevent theft or to move from car to boat. All connections simply slide—including the antenna connections (unlike many units on the market). All cables, connectors etc. supplied. DE3520.....\$8.90

L brackets

For mounting a CB, cassette—anything below the dashboard. DE6122.....\$4.95 pair

Amateur antenna parts

EGG insulators
Small suit light and receiving antennas
DE6302.....\$0.85
Large suit heavy transmitting—porcelain
DE6304.....\$1.45

CALCULATORS

STUDENTS NOTE: If you're attending a school, technical college or university you are eligible for tax savings on calculators. Just call us for our tax-free price on these calculators and contact your principal for full details.

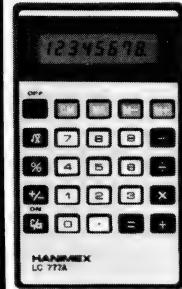
The new Texas TI-30-II



The TI-30 and 25 have been among the most popular low-cost scientific calculators on the market. Now there's the brand new TI-30-II. An eight digit, Liquid Crystal Display type like the old TI-25, but with Constant Memory. No more re-keying of often used constants—the TI-30-II stores anything loaded into its memory indefinitely—even with the power off! Other features include:

- ★ Scientific notation
- ★ Easy to use algebraic operating system
- ★ 48 functions to meet the needs of today's maths and science students
- ★ Angular conversions for degrees, radians and grads
- ★ Performs inverses and factorials, roots, powers, reciprocals, common and natural logarithms and much more
- ★ Ultra compact case (only 135 x 73 x 10mm) in convenient plastic wallet.

Cat. QE7040.....\$19.95



Hanimex LC 777A

6 function pocket calculator with liquid crystal display. As well as the 4 standard functions this one has square root and percentage. Also equipped with a fully addressable memory. 8 digit supplied with plastic wallet. Includes batteries. QE7011.....\$11.99

**ONLY
\$11.99**

**TRY OUR FAST MAIL
ORDER SERVICE**

Batteries, power supplies, transformers,

Transformers

PC mount 5VA

A series of ultra compact PC mount transformers. Only 55mm x 42mm x 34mm. These are used on many popular projects. A range of voltages with corresponding current. All have two secondary windings which can be used to provide ± supplies or connected in series to double the voltage, or parallel to double the current. 240V primary.

PL12/5VA 2 x 6V @ 830mA ME2807

PL15/5VA 2 x 7.5V @ 670mA ME2809

PL18/5VA 2 x 9V @ 560mA ME2811

PL24/5VA 2 x 12V @ 420mA ME2813

PL30/5VA 2 x 15V @ 330mA ME2815

All one price: just \$6.80 each

PL20VA flat pack

These are low profile transformers suitable for many projects. The same convenient twin secondary as the 5VA models, giving maximum flexibility. Much lower hum radiation than conventional types. 240V primary 11.0mm x 60mm x 39mm overall.

PL12/20VA 2 x 6V @ 1.67A ME2830

PL15/20VA 2 x 7.5V @ 1.33A ME2833

PL18/20VA 2 x 9V @ 1.11A ME2836

PL24/20VA 2 x 12V @ 0.83A ME2839

PL30/20VA 2 x 15V @ 0.67A ME2842

PL40/20VA 2 x 20V @ 0.5A ME2845

All one price: just \$10.95 each

PL60VA

Higher profile than above. Same low hum radiation and twin secondaries. 240V primary 11.0mm x 60mm x 53mm overall.

PL18/60VA 2 x 9V @ 3.33A ME2847

PL24/60VA 2 x 12V @ 2.5A ME2848

PL30/60VA 2 x 15V @ 2A ME2849

All one price: \$14.75 each

Plug-pack battery eliminators

Don't throw your money away on batteries when one of these compact plug packs can power your calculators, transistor radios or cassette recorder.

9V/220mA

Ideal for small, low current battery devices. Terminates in a 3.5mm jack plug.

ME7719 \$5.95

6,9,12V/500mA

Enough power to supply virtually anything up to a good-sized cassette. Terminated in a multiway connector that will mate with virtually any DC input socket.

ME7710 \$12.50

3,6,9,12V/1A

Overload protected high current model. Suits continuous use intercoms, high current cassette recorders, toys etc. Screw terminations and mains cord and lead. 156 x 88 x 56mm, 60g.

ME7735 \$24.50

CB power supply 13.8V/2A

Fully regulated supply for CBs, amateur gear, car cassette decks—anything needing 13.8V at 2A. Mains cord and plug.

ME7750 \$39.50

12VAC plugpack/500mA

Ideal outboard supply for small projects. Eliminates hum problems caused by internal transformers—also much safer. As used in many magazine projects. Double insulated.

ME7715 \$9.50

Because we sell huge numbers of batteries, our stock is always fresh—and they haven't spent months at sea. We only carry Eveready's heavy duty and Alkaline power cells.

Heavy duty Eveready reds

AA size 1.5V 1015 SE2302 \$0.31

C size 1.5V 1035 SE2304 \$0.40

D size 1.5V 1050 SE2306 \$0.49

9V transistor 216 SE2308 \$0.95

9V 276P SE2412 \$3.49

6V lantern 509 SE2442 \$2.70

6V lantern 731 HD SE2443 \$6.75

screw terminals SE2444 \$7.30

12V lantern 732 HD screw terminals SE2444 \$7.30

Heavy duty Eveready reds

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Heavy duty Eveready reds

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

C size 1.5V E93 SE2555 \$0.99

D size 1.5V E95 SE2557 \$0.99

N size 1.5V pack 2 SE2551 \$2.20

AAA size 1.5V E92 SE2552 \$1.10

Alkaline Energizers

AA size 1.5V E91 SE2553 \$0.75

TV antennas, burglar alarms

TV and FM Antennas & accessories

VHF antennas by Austenna: channels 0, 2, 7, 9 & 10

CC7FA Starfire fringe

Really drags a signal out of the snow. Log periodic design. Includes a 75 ohm balun (unlike others we've seen) for matching to coax. Excellent front-to-back ratio eliminates ghosting.

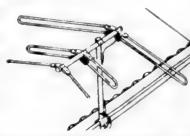
LE6280 \$49.90



MTQR2H prime reception areas

Twin dipole yagi gives ghost free reception in stronger signal areas. Gutter mount for easy installation and portability. Compact—ideal for home units, caravans etc. 300 ohm, use LE6757 balun for coax.

LE6300 \$22.90

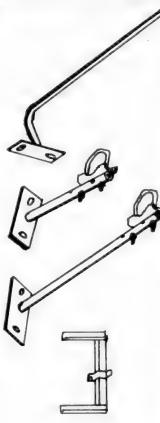


Antenna mounts

Bargeboard mount

Simply bolts on to bargeboard (below gutter) or other support. 1390mm long, galvanised steel construction.

LE6455 \$6.50

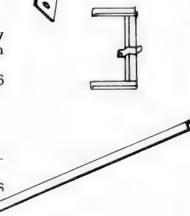


Wallmounts

Two lengths: bolt on to wall and space antenna to clear eaves. Use with LE6461 mast section. Galvanised steel, include U-bolts.

LE6457 28cm \$4.25

LE6458 69cm \$4.95



Chimney mount

Steel straps wrap around chimney to securely support mast section (use LE6461 not supplied).

LE6459 \$9.75

Mast section

2.4m long galvanised steel mast—use with above mounts.

LE6461 \$4.95



U-clamp/V block

For securely clamping mast sections, mounts etc. at right angles.

LE6470 \$1.50

Burglar alarms & accessories

Car alarm

Very simple to install alarm senses voltage drop, also has provision to protect boot, bonnet and accessories. Includes siren with 127mm diameter horn. All electronics are housed in the horn. Supplied with cables, connectors, control switch and mounting hardware. Simple 5 wire connection protects your car.

LE6599 \$49.50



burglar alarm accessories

Reed switches

Two models, one with plastic cases have screw terminals on the switch section. The other is a simple glass reed switch for concealed mounting in door and window frames.

LE6760 Enclosed switch with magnet \$1.95

LE6770 Exposed reed switch \$1.50

LE6765 Magnet to suit \$1.35



Circuit tape

To protect windows. Simply stick in place and terminate with circuit blocks. 32m long 6.4mm wide.

LE6775 Circuit tape \$5.95

LE6760 Circuit blocks to suit \$0.45

Pressure mat

Closes contacts when walked on. Use under carpet inside doorways etc. Suitable for door entry alarm.

LE8780 \$14.95

Horn siren

Compact horn with built in siren. Simply connect to 12V supply via alarm controller for an ear-splitting racket that will scare off any burglar.

LE8920 \$24.50

250mm 12V bell

Incredibly loud weatherproof bell. Unmatched efficiency gives a huge noise with minimal current drain.

LE8930 \$43.50

Home Alarm Module

Seco Model SA260 forms the heart of an economical home burglar alarm.

Has normally open and normally closed loops, entry and exit delay, siren driver (use with CE2807 horn, see page 15).

Operates on 12 Volts DC, use with sensors listed below.

LE8570 \$29.50

75mm Alarm Bell

Super efficient 12V bell to suit alarm systems that don't need the incredible volume of our large bell. Very low current drain. Use it as a doorbell and the Avon Lady won't forget you!

LE8932 \$14.99

Car door switches

A pair of switches ideal for use with the LE8599 alarm to protect the boot and bonnet. Also for use switching on internal lights.

LE8775 \$1.65 pair

Alarm barrel switch

Key operated switch for secure control of alarms or other equipment that must not be switched off. SPST with two keys.

LE8790 \$6.50

Ultrasonic transducers

These minute transducers are used in many commercial and magazine project ultrasonic alarms (see EA Feb, 1974).

LE8940 Transmit \$4.95

LE8945 Receive \$4.95

UHF outdoor Hills TC10

10 element patented design dipole.

Very high front-back ratio eliminates ghosting. Covers all Australian UHF band 5. Very solidly constructed—don't confuse this antenna with cheaper units that will drop to bits in months. Includes balun to suit 75 ohm coax and precision quality mounting assembly.

LE6235 \$26.90



FM outdoor

3 element design. Covers all Australian FM band. Reduces multipath interference for low distortion. 300 ohm, use LE6757 balun for 75 ohm coax.

LE6269 \$14.90

FM indoor

Simple ribbon type antenna gives good performance in strong signal areas. 300 ohm termination.

LE6265 \$1.50



75 ohm outlet

Mounts on skirting board to connect your antenna to your TV. Standard 75 ohm socket, complete with screws.

LE6809 \$2.75

75 ohm lead with plugs

Ideal to connect between the LE6809 outlet and a set. 2m long with standard 75 ohm plugs both ends.

LE6811 \$2.75

Splitters

Essential for operating more than one set from a single antenna—don't try wiring them without one—it doesn't work!

300 ohm 2 way \$2.95

75 ohm 2 way \$2.95

75 ohm 4 way \$3.25

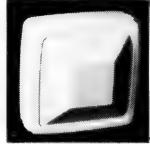
300 ohm 4 way \$4.75

See page 26 for TV plugs and sockets and page 29 for cable.

Radar motion detector

This great little unit uses the doppler principle to detect movement within an area. Unlike other units, this one has a broad and adjustable beam angle—lets you mount it virtually anywhere in a room. Incredibly compact 100mm square and 45mm deep—very unobtrusive. Operates on 12VDC 160mA, has normally open and normally closed outputs capable of switching 12VDC at 150mA. Holds for 3 seconds on triggering or continuously if movement continues within the 3 seconds. Has built in 'walk-test' for adjustment: two LEDs let you adjust the unit's aim for optimum performance. Also usable for door entry alarm—simply mount on the ceiling in the entrance. Maximum range of 7.5m long x 4.5m wide.

LE8650 \$89.00



Electronic buzzer

Operates from 4 to 15VDC. Tiny unit ideal for warning systems with in equipment, shop door alarms etc. Current drain only 15mA, 32 x 14mm.

LE8900 \$1.95



Piezo buzzer

Similar to above in use, but louder and clearer tone. Operates over 5-29V DC. Circular unit approximately 50mm diameter x 30mm deep.

LE8910 \$4.95

INSTALL YOUR OWN TV
ANTENNA AND BURGLAR
ALARM—AND SAVE

HARDWARE

Boxes and Cases

Die Cast Aluminium Boxes

These are the ideal housing for any project needing durability and excellent shielding. Popular for RF projects, musical projects and automotive projects.

Cat. No. Size

	(depth x height x width, mm)	
HE1203	190 x 60 x 110	\$12.50
HE1208	150 x 50 x 80	\$8.50
HE1213	120 x 40 x 65	\$4.90
HE1223	100 x 25 x 50	\$3.50



Horwood Instrument Cases

These quality cases are popular for housing amplifiers, power supplies, instruments—anywhere a medium size good looking case is needed.

HE1452



HE1462



HE1457

HE1452	203 x 102 x 153	\$14.50
HE1457	203 x 102 x 254	\$16.50
HE1462	228 x 76 x 203	\$14.50
HE1467	228 x 76 x 305	\$17.50

HE1467

Rack-mount Cases

Three styles of heavy duty cases for the larger project. Two styles to mount in standard 19" racks. One case with double solid timber sides. All are constructed of heavy gauge aluminium.



HE1477

HE1492

HE1497

HE1477	Black anodized finish	\$39.95
HE1492	Adaptive Electronics	\$55.00
HE1497	As Above Timber Sides	\$45.00
All are standard 5 1/4" high (3 rack units) and 12" deep.		

Instrument Cases

This new range of cases is made in Australia of heavy gauge aluminium and blue hammer finish steel. Ideal general purpose case at a reasonable price.

HE1648

HE1653

HE1658

HE1663

HE1668

HE1648	150 x 55 x 100	\$5.20
HE1653	200 x 80 x 130	\$6.50
HE1658	255 x 92 x 155	\$8.50
HE1663	255 x 165 x 155	\$12.25
HE1668	305 x 105 x 200	\$12.25

Metal Cases

As used in many popular magazine projects. Aluminium case finished in grey with black finish steel cover. Ventilated and supplied with rubber feet.

HE1739

HE1740

HE1741

HE1742

HE1739	56 x 83 x 102	\$2.75
HE1740	61 x 103 x 150	\$4.35
HE1741	76 x 134 x 150	\$4.90
HE1742	70 x 160 x 184	\$5.45

'Zippy' Plastic Cases

What can we say about these famous boxes. Ideal for any small project needing a quality economical case. Constructed of quality plastic with an aluminium cover.



1.9 10 up

HE1749 150 x 90 x 50 \$2.50 \$2.20

HE1750 196 x 113 x 60 \$3.75 \$3.00

HE1751 130 x 68 x 41 \$1.95 1.50

HE1753 83 x 54 x 28 1.50 1.20

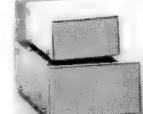
Aluminium Instrument Cases

Compact, economical cases for similar uses to 'Zippy' boxes but where shielding is required.

1 to 9 10 up

HE1803 125 x 40 x 65 ... 3.30 3.00

HE1804 150 x 55 x 95 ... 3.90 3.50



Plastic Case

Made of tough moulded plastic in two pieces with slide-in front and back panels. Air vents and moulded-in PC slots. Manufactured in Australia by A & R Soanar.

HE1513 140 x 130 x 78 \$5.95

Nuts, bolts and washers

1/8" whitworth thread

Cat. No.	Description	Pack Qty.	Pack Price
HE0060	Steel Bolt 1/2"	25	.75
HE0063	Steel Bolt 1/2" C'sunk	25	.95
HE0070	Steel Bolt 1"	20	.75
HE0073	Steel Bolt 1 1/2"	10	.50
HE0320	Steel Hex Nut	25	.75
HE0470	Shake Proof Steel Washer	50	.80
HE0480	Flat Steel Washer	50	.75

4 BA

HE0040	Nut & Bolt Nylon 1 1/2"	4	1.20
HE0080	Steel Bolt 1/2"	25	.75
HE0330	Steel Hex Nut	20	.75

6 BA

HE0030	Nylon Bolt 1/4"	10	.75
HE0090	Steel Bolt 1/2"	25	.80
HE0093	Steel Bolt Cheeshead 1"	25	1.50
HE0310	Nylon Hex Nut	12	1.75
HE0340	Steel Hex Nut	25	.80

Screws

HE0609	Slapping Screw 1/4"	25	.80
HE0630	Slapping 1/2"	25	.85
HE0670	Small Slide Switch	1	.04
HE0672	Large Slide Switch	1	.04

Fuse Clips

HE0798 Pack of 8—80c each

Grommets

HE0710	Grommet 7/32"	10	.80
HE0714	Grommet 1/4"	10	.80
HE0717	Grommet 3/8"	8	.80
HE0722	Cord Clamp—Grommet	4	.80

Rubber Feet

HE0734	Small Rubber	8	.75
HE0743	15mm Adhesive	4	.75
HE0747	20mm Adhesive	4	.85

Spacers

HE0828	Metal Untapped 1/4"	8	.75
HE0831	Metal Untapped 1/2"	8	.95
HE0832	Metal Untapped 1"	6	.95
HE0844	Metal Tapped 3/4"	4	.95
HE0845	Metal 1/8" Tapped 1" long	4	.95
HE0860	Insulated with Screws 15mm	5	1.75
HE0870	Insulated with Screws 25mm	4	1.75
HE0873	Nylon 1/8" Taped 1" long..	4	1.20

Angle Brackets

HE0893	1/4" Steel	6	1.75
--------	------------	---	------

Circuit Board Support

Moulded nylon support simply pushes into chassis hole and locks securely in place. PC board is then pushed over the top—holding it securely without nuts, bolts or spacers.

HE0979	3/8" high	6	.80
--------	-----------	---	-----

Cable Clamps & Ties

HE0962	3/16" Nylon	5	.75
HE0963	1/4" Nylon	5	.80
HE0964	5/16" Nylon	5	.80
HE0968	Small Cable Ties	20	1.35

Clip Lites

—LED Holders

Fantastic little snap in LED holders give your project that 'finished' look. Improves LED visibility—increases viewing angle to a full 180°. Five colours.

Cat. No.	Colour	Price 1-9	Price 10 up
HE0900	Red	25	.20
HE0901	Green	25	.20
HE0902	Yellow		
HE0903	Amber		
HE0904	Clear		

All one price: 25c each 1-9 20c each 10 up

Standard LED Mounting Bezel

HE0908	5mm	15	.75
--------	-----	----	-----

Transistor Mounting Parts

HE0915	TO3 Mounting Kit	4	.65
HE0916	TO3 Insulating Cap	4	.35
HE0923	Flat Pack Mounting Kit	4	1.45

Perspex

Useful piece of acrylic sheet, ideal for many enthusiast uses. Try buying a small piece from a plastic supplier!

HE4577	100 x 150mm	\$1.95	1-9	\$1.70	10 up
--------	-------------	--------	-----	--------	-------

Circuit boards

A range of boards that are the ideal base for your projects. We've got matrix board, veroboard, IC boards, plain PC boards—everything for the experimenter. All (except PC) are plated ready for solder.

Veroboard 0.1 pitch 75 x 300mm	HE4620	\$4.50
Veroboard 0.1 pitch 75 x 75mm	HE4616	\$1.60
Veroboard 0.1 pitch 75 x 150mm	HE4614	\$3.45
Veroboard striped 75 x 150mm	HE4618	\$3.45
Spot face cutter tool	HE4178	\$3.50

Matrix board 0.1 pitch 75 x 75mm	HE4312	\$1.30
----------------------------------	--------	--------

Veroboard 0.1 pitch 305 x 305mm	HE4322	\$19.95
---------------------------------	--------	---------

PC board plain bakelite 150 x 75mm	HE4502	\$0.75
------------------------------------	--------	--------

PC board plain bakelite 150 x 150mm	HE4507	\$1.50
-------------------------------------	--------	--------

PC board plain bakelite 150 x 225mm	HE4562	\$4
-------------------------------------	--------	-----

Test equipment accessories

Multimeter leads

A pair of leads to suit most multimeters. 900mm long, high quality flexible lead with 1.5mm pin plugs one end, probes at the other. One red, one black.

WE8706 \$1.75

Same as above, but fitted with 4mm banana plugs.

WE8710 \$1.95

Coiled multimeter leads

Coiled cable helps keep your test bench tidy. 1.5mm pin plugs fitted. Pair, one each, red and black.

WE8722 \$2.95

Multi-use multimeter probe kit

A handy kit for anyone who uses a multimeter. Built around a high quality pair of test leads, with an assortment of alligator clips, spade lugs and conventional probe tips. Meter end has interchangeable pin and banana plugs. There are a number of these kits on the market, but most just aren't good enough. This kit is the best we've seen.

WE8727 \$5.95

IC jumper lead set

A pair of top quality miniature test clip leads that let you safely connect to IC pins without risk of short circuits. Two leads, red and black each with test clip both ends.

WE8774 \$3.80

IC clip test lead set

A pair of miniature test clips on a short lead with an insulated socket designed to accept the tips of your standard multimeter probes.

WE8775 \$3.75

IC test clips

The same clips as used in our WE8774 and WE8775 leads. Perfect for IC testing. Top quality and look at our price! Others sell for more than double this!

WE8782 Red \$0.36 1-9 \$0.32 10 up

WE8784 Black \$0.36 1-9 \$0.32 10 up

Large hook probes

Basically the same as the above, but with a much longer reach to get you into real rats' nests. Has a screw connection for your test lead instead of solder.

WE8791 Red \$2.50

WE8792 Black \$2.50

Test lead pack

Two metres each of red and black ultra-flexible. Has literally hundreds of strands and extremely low resistance making it ideal for use as test leads or for connection to moving parts, where the wire must withstand constant flexing.

WE8218 \$3.50

IC test clip

Simply clips over 8, 14 or 16 pin DIP ICs for easy testing. Gold plated contacts for high reliability and low resistance. Top is terminated in a row of gold plated lugs. For general use, these allow easy connection of meter test leads with IC test clips or for repetitive testing may be soldered to leads for multimeters, counters, logic analysers etc.

WE8904 \$3.50

Heatsinks



HE2433



HE2473



HE2474



HE2425



HE2403



HE2406



HE2408

HE2429

Transistors too hot? Cool them down with these quality anodised aluminium heatsinks.

HE2403 Power fin TO3 \$1.25

HE2406 Deluxe TO220 \$0.75

HE2408 TO220 \$0.60

HE2415 TO5 Push on \$0.55

HE2425 Extruded Fan 75mm long plain \$3.50

HE2426 As Above—Drilled for TO3 \$4.00

HE2429 As Above—225mm long plain \$9.50

HE2430 As Above—Drilled for 4 x TO3 \$10.50

HE2433 Philips 65D6CB—ETI 300 watt \$29.50

HE2473 Finned Channel 75mm long \$3.50

HE2474 As Above—Drilled 75mm \$3.95

HE2483 Flag Type \$0.20

HE2493 ETI 5000 Cast—Drilled \$39.50

HE2443 Heatsink Bracket—4 x TO3—pair \$5.00

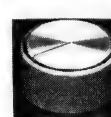
Knobs and Dials



HE2601



HE2606



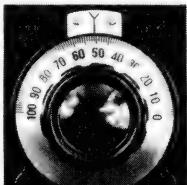
HE2616



HE2619



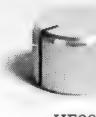
HE2624



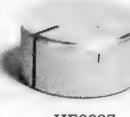
HE2902



HE2731



HE2634



HE2637

The following are machined metal knobs with set screw and standard Australian .250" shafts

Knurled grip with skirt. Diameter 16mm, Height 18mm Skirt 23mm.

HE2601 \$1.40 1 to 9
\$1.30 10 up

Knurled grip with skirt. Smaller version of HE2601. Diameter 13mm, Height 17mm, Skirt 19mm.

HE2606 \$1.20 1 to 9
\$1.10 10 up

Knurled grip with pointer engraved on face. Diameter 24mm, Height 13mm.

HE2616 \$1.60 1 to 9
\$1.50 10 up

Smooth grip with pointer engraved on side and face. Diameter 23mm, Height 14mm.

HE2619 \$1.70 1 to 9
\$1.60 10 up

Knurled shaft with pointer on face and side. Diameter 19mm, Height 20mm.

HE2624 \$1.40 1 to 9
\$1.30 10 up

50mm Vernier. Gives precise indication of position, with built in 6 to 1 reduction drive. Smooth action with very low backlash.

HE2902 \$4.90

Plastic Knobs



HE2661



HE2759



HE2765



HE2767



HE2768



HE2771

Black Plastic with spun aluminium cap. Dia. 20mm
HE2661 45c 1 to 9
40c 10 up

Knurled plastic knob with metal cap. Dia. 40mm Height 16mm
HE2759 70c 1 to 9
60c 10 up

Plastic knob with pointer and skirt. Dia. 32mm Height 16mm
HE2765 55c 1 to 9
50c 10 up

Fluted grip with engraved pointer Dia. 24mm Height 15mm
HE2767 45c 1 to 9
40c 10 up

Fluted grip with engraved pointer Dia. 24mm Height 19mm
HE2767 55c 1 to 9
50c 10 up



HE2781



HE2783

Silver push on knob for 8mm shaft slide pots. 15mm deep, 10.5 x 16mm
HE2781 40c 1 to 9
35c 10 up

Black plastic slider knob
HE2783 50c 1 to 9
45c 10 up

Handspan Dial. Suitable for tuning dial of receiver or signal generator. Clear plastic dial with black centre knob.
HE2792 \$2.00

Fluted plastic knob with aluminium cap and pointer down side. Dia. 24mm Height 14mm.
HE2771 60c 1 to 9
55c 10 up



Dial cord—a 3m length of top quality nylon dial cord to get that radio going again. Don't spend money on expensive cord that you'll never use half of! This pack has more than enough to repair any radio we've ever seen.
HE2937 \$0.75



Connectors

AUDIO CONNECTORS

2.5mm jack

Used on many small tape recorders for 'remote' function.
 Plug PEO023. \$0.30... \$0.25 10 up
 Panel socket PEO118. \$0.25... \$0.20

3.5 mm

Widely used as mike/earphone sockets on portable tape recorders, radios, etc. The stereo version is used on 'Walkman' type over-shoulder cassette/radios.

Plug—red PEO030. \$0.40... \$0.30
 Plug—black PEO032. \$0.40... \$0.30
 Plug—stereo PEO038. \$0.75... \$0.60
 Panel socket PEO129. \$0.35... \$0.25
 Line socket—red PEO132. \$0.38... \$0.30
 Line socket—black PEO134. \$0.38... \$0.30
 Panel socket—stereo PEO138. \$0.60... \$0.50

6.5mm jack

The standard plug for guitars, most mikes. Stereo is the standard for headphones.

Plug—mono—plastic cover PEO058. \$0.65... \$0.55
 Plug—mono—metal cover PEO060. \$0.95... \$0.85
 Plug—stereo—plastic PEO064. \$0.85... \$0.75
 Plug—stereo—metal PEO066. \$1.10... \$1.00
 Socket—mono—panel PEO159. \$0.60... \$0.50
 Socket—mono—line PEO162. \$0.55... \$0.50
 Socket—stereo—panel PEO164. \$0.80... \$0.70
 panel PEO165. \$0.95... \$0.85
 Socket—stereo—with double switch PEO174. \$0.85... \$0.80
 Socket—stereo—line PEO184. \$0.75... \$0.65

RCA

These coaxial plugs are used on virtually all hi-fi equipment (except European). Known in the US as 'phono' connectors.

Plug—red PEO318. \$0.35... \$0.30
 Plug—black PEO320. \$0.35... \$0.30
 Line socket—red PEO308. \$0.35... \$0.25
 Line socket—black PEO310. \$0.35... \$0.25
 Panel socket screw mount PEO328. \$0.35... \$0.30

Panel socket on plastic base PEO338. \$0.38... \$0.30
 Two way panel socket PEO340. \$0.65... \$0.50
 Four way panel socket PEO342. \$0.99... \$0.85
 Six way panel socket PEO344. \$1.38... \$1.25

DIN

Widely used on European equipment. 3 pin are mono. 5 pin are stereo, 2 pin are for speakers.

2 pin line plug PEO418. \$0.55... \$0.45
 2 pin line socket PEO422. \$0.45... \$0.35
 2 pin panel socket PEO420. \$0.40... \$0.35
 3 pin line plug PEO428. \$0.60... \$0.50
 5 pin line plug PEO448. \$0.70... \$0.60
 5 pin line socket PEO452. \$0.80... \$0.70
 5 pin panel socket PEO450. \$0.55... \$0.45

Pro audio—Neutrik These Swiss connectors are a direct replacement for the older 'Cannon' connector but feature superior cable clamping, easier soldering and lower prices. Solid diecast zinc housing, sandblasted, copper plated and satin nickel finished. Contacts of silver plated copper/zinc/lead alloy. Contact resistance of less than 5 milliohms. Rated at 15A/30V. All are 3 pin.

Line socket NC3FC PEO518. \$3.60... \$3.40
 Panel plug NC3MP PEO520. \$3.50... \$3.20
 Line plug NC3MC PEO522. \$3.80... \$3.50
 Panel socket NC3FP PEO524. \$4.00... \$3.60

240V MAINS PLUGS & SOCKETS

Standard 3 pin

3 pin plug 10A grey PEO498. \$0.95
 3 pin piggy back plug PEO4503. \$1.60
 Extension socket grey PEO4508. \$1.85
 Surface mount 3 pin socket PEO4514. \$1.40
 RFI suppression plug PEO4523. \$3.90
 Double power point PEO4658. \$6.00
 Double adaptor PEO4538. \$1.80

Lamp holders (BC)

Line type bayonet PEO4608. \$1.20
 Batten type standard PEO4611. \$1.80
 Batten type adjustable PEO4618. \$2.27

Equipment AC input

Compact pair of connectors for providing a 240V input to equipment. Socket incorporates a switch to disconnect any internal batteries or other power supply. Similar to those used on many AC/DC radios and cassette recorders.

2 pin plug PEO585. \$0.30

2 pin socket with switch PEO863. \$0.90

Speaker Terminals

Spring loaded terminals designed to take a bare wire. Use for speaker terminations on amplifiers or speaker boxes (seal them in with Silastic NE4329 to prevent air leaks).

Single red PEO637. \$0.60... \$0.55
 Single black PEO638. \$0.60... \$0.55
 Double red/black PEO662. \$0.65... \$0.60
 4 way red/black (stereo amp) PEO663. \$1.65... \$1.50
 Double recessed speaker type PEO665. \$1.75... \$1.50

Crystal socket

Standard small type K socket as used in many CBs, walkie talkies and amateur gear. PEO3818. \$0.55

Solderless Breadboard

This one is a patented design from Continental Specialties Corporation in the US. It has a total of 270 tie points and will accept ICs up to 40 pin (or 3 x 14 pin DIP). Contact resistance is an amazing 0.5 milliohm initially, reducing to 0.4 milliohm after multiple use. Size is 91 x 52 x 10mm. Boards lock together in any direction with precision moulded interlocking edge rails. Four mounting holes provided.

PE3712. \$9.88

Utilux inline connectors

Ideal for automotive use these multiway inline connectors feature nylon bodies with crimp terminals. Heavy current capacity. Supplied as plug and socket set. Connectors lock together for security against vibrating loose.

2 pin plug & socket PEO758. \$0.75
 3 pin plug & socket PEO760. \$0.98
 6 pin plug & socket PEO764. \$1.40

Octoplus 8 pin

Based on the standard 8 pin valve socket, these connectors are ideal for low cost multiway connections, strobe tube bases etc.

8 pin plug PE2108. \$0.95
 8 pin chassis socket PE2123. \$0.95

COMPUTER CONNECTORS

\$100

This 100 pin edge connector is standard for interfacing S100 microcomputer boards to the buss. Also usable for any plug-in PCB application needing this number of contacts.

S100 Edge connector PE1768. \$9.75

25 Pin 'D' type

The standard connector for RS-232 serial interfaces and many other computer—peripheral connections.

Plug PE1788. \$5.60

Backshell (cover) PE1790. \$2.60

DC plugs & sockets

Designed for connection between a portable appliance and a low voltage power supply. Chassis fitting incorporates a switch to disconnect internal batteries. Two sizes: 2.1mm for 9V, 2.5mm for 6V and lower. Standard connection is centre negative, outer positive—but always check as many products don't conform to this standard.

2.1mm line connector PEO539. \$0.40... \$0.30
 2.1mm chassis connector PEO559. \$0.60... \$0.50
 2.5mm line connector PEO543. \$0.40... \$0.30
 2.5mm chassis connector PEO563. \$0.60... \$0.50

Cigarette lighter plug

The plug to use when you want to connect anything to your car's electrical system conveniently.

Plug PE0573. \$0.70

Banana plugs & sockets

Traditionally used for test equipment connections. Very heavy current capacity makes them popular for speaker connections as well as test equipment.

Plug—red PEO608. \$0.30... \$0.25
 Plug—black PEO610. \$0.30... \$0.25
 Panel socket—red PEO618. \$0.40... \$0.35
 Panel socket—black PEO620. \$0.40... \$0.35
 Socket with binding post—red PEO628. \$0.55... \$0.45
 Socket with binding post—black PEO630. \$0.55... \$0.45

PC Edge connectors

Designed for 'plug-in' connection of PCBs, these connectors have contacts spaced at standard 0.1" intervals, gold plated contacts and mounting feet. May be mounted in line to increase contact number.

16 way socket PE1914. \$2.00

24 way socket PE1922. \$3.50

28 way socket PE1928. \$3.50

32 way socket PE1934. \$3.50

40 way socket PE1940. \$3.50

48 way socket PE1948. \$3.50

56 way socket PE1956. \$3.50

64 way socket PE1964. \$3.50

72 way socket PE1972. \$3.50

80 way socket PE1980. \$3.50

96 way socket PE1996. \$3.50

112 way socket PE1998. \$3.50

128 way socket PE1999. \$3.50

144 way socket PE1999. \$3.50

160 way socket PE1999. \$3.50

176 way socket PE1999. \$3.50

192 way socket PE1999. \$3.50

208 way socket PE1999. \$3.50

224 way socket PE1999. \$3.50

240 way socket PE1999. \$3.50

256 way socket PE1999. \$3.50

272 way socket PE1999. \$3.50

288 way socket PE1999. \$3.50

304 way socket PE1999. \$3.50

320 way socket PE1999. \$3.50

336 way socket PE1999. \$3.50

352 way socket PE1999. \$3.50

368 way socket PE1999. \$3.50

384 way socket PE1999. \$3.50

400 way socket PE1999. \$3.50

416 way socket PE1999. \$3.50

432 way socket PE1999. \$3.50

448 way socket PE1999. \$3.50

464 way socket PE1999. \$3.50

480 way socket PE1999. \$3.50

496 way socket PE1999. \$3.50

512 way socket PE1999. \$3.50

528 way socket PE1999. \$3.50

544 way socket PE1999. \$3.50

560 way socket PE1999. \$3.50

576 way socket PE1999. \$3.50

592 way socket PE1999. \$3.50

608 way socket PE1999. \$3.50

624 way socket PE1999. \$3.50

640 way socket PE1999. \$3.50

656 way socket PE1999. \$3.50

672 way socket PE1999. \$3.50

688 way socket PE1999. \$3.50

704 way socket PE1999. \$3.50

720 way socket PE1999. \$3.50

736 way socket PE1999. \$3.50

752 way socket PE1999. \$3.50

768 way socket PE1999. \$3.50

784 way socket PE1999. \$3.50

800 way socket PE1999. \$3.50

816 way socket PE1999. \$3.50

832 way socket PE1999. \$3.50

848 way socket PE1999. \$3.50

864 way socket PE1999. \$3.50

880 way socket PE1999. \$3.50

896 way socket PE1999. \$3.50

912 way socket PE1999. \$3.50

928 way socket PE1999. \$3.50

944 way socket PE1999. \$3.50

960 way socket PE1999. \$3.50

976 way socket PE1999. \$3.50

992 way socket PE1999. \$3.50

1008 way socket PE1999. \$3.50

1024 way socket PE1999. \$3.50

1040 way socket PE1999. \$3.50

1056 way socket PE1999. \$3.50

1072 way socket PE1999. \$3.50

1088 way socket PE1999. \$3.50

1104 way socket PE1999. \$3.50

1120 way socket PE1999. \$3.50

1136 way socket PE1999. \$3.50

1152 way socket PE1999. \$3.50

1168 way socket PE1999. \$3.50

1184 way socket PE1999. \$3.50

1200 way socket PE1999. \$3.50

1216 way socket PE1999. \$3.50

1232 way socket PE1999. \$3.50

1248 way socket PE1999. \$3.50

1264 way socket PE1999. \$3.50

1280 way socket PE1999. \$3.50

1296 way socket PE1999. \$3.50

1312 way socket PE1999. \$3.50

1328 way socket PE1999. \$3.50

1344 way socket PE1999. \$3.50

1360 way socket PE1999. \$3.50

1376 way socket PE1999. \$3.50

1392 way socket PE1999. \$3.50

1408 way socket PE1999. \$3.50

1424 way socket PE1999. \$3.50

1440 way socket PE1999. \$3.50

1456 way socket PE1999. \$3.50

1472 way socket PE1999. \$3.50

1488 way socket PE1999. \$3.50

1504 way socket PE1999. \$3.50

1520 way socket PE1999. \$3.50

1536 way socket PE1999. \$3.50

1552 way socket PE1999. \$3.50

1568 way socket PE1999. \$3.50

1584 way socket PE1999. \$3.50

1600 way socket PE1999. \$3.50

1616 way socket PE1999. \$3.50

1632 way socket PE1999. \$3.50

1648 way socket PE1999. \$3.50

1664 way socket PE1999. \$3.50

1680 way socket PE1999. \$3.50

1696 way socket PE1999. \$3.50

1712 way socket PE1999. \$3.50

1728 way socket PE1999. \$3.50

1744 way socket PE1999. \$3.50

1760 way socket PE1999. \$3.50

1776 way socket PE1999. \$3.50

1792 way socket PE1999. \$3.50

1808 way socket PE1999. \$3.50

1824 way socket PE1999. \$3.50

1840 way socket PE1999. \$3.50

1856 way socket PE1999. \$3.50

1872 way socket PE1999. \$3.50

1888 way socket PE1999. \$3.50

1904 way socket PE1999. \$3.50

1920 way socket PE1999. \$3.50

1936 way socket PE1999. \$3.50

1952 way socket PE1999. \$3.50

1968 way socket PE1999. \$3.50

1984 way socket PE1999. \$3.50

2000 way socket PE1999. \$3.50

2016 way socket PE1999. \$3.50

2032 way socket PE1999. \$3.50

2048 way socket PE1999. \$3.50

2064 way socket PE1999. \$3.50

2080 way socket PE1999. \$3.50

2096 way socket PE1999. \$3.50

2112 way socket PE1999. \$3.50

2128 way socket PE1999. \$3.50

switches, relays, fuses, fuseholders

SWITCHES AIN'T SWITCHES

An awful lot of 'low priced' switches have appeared on the market over the last few years. And ever since they've appeared we've been hearing of toggles dropping off, terminations snapping, intermittent operation—in short anything that can go wrong with a switch. If you thought that all switches work that way—take a look at these. To solve all the problems constructors have with switches we are now stocking a wide range of C&K toggle switches. These top quality American switches have earned a reputation for reliability that's unrivalled. At last you can buy switches that will work every time. Look at the features of C&K toggles and we think you'll agree that the slightly

higher price is well worth it—after all, you put a lot of time and effort into your projects, so why risk it failing because of a few cents saved on a switch.

C&K toggles feature:

- ★ Gold/Nickel plated brass contacts
- ★ Stainless steel housing
- ★ High density melamine or DAP insulation
- ★ Chrome plated solid brass toggles
- ★ Insulation resistance of 1000M ohms minimum
- ★ 10 milliohms contact resistance
- ★ Electrical life of 100,000 make-break cycles at full load

TOP QUALITY SWITCHES FOR TOP QUALITY PROJECTS

C&K toggles

A variety of styles and types to complement any front panel. Take a look at the new flat toggle models—they look great and work beautifully. Contact rating on all models is 2A with resistive load at 250VAC. All fit in a 6.35mm diameter hole.

Cat. No.	Price	Price
SPDT toggle SE0100	\$1.45	\$1.20
DPDT toggle SE0104	\$1.65	\$1.50
SPDT flat toggle SE0110	\$2.45	\$2.20
DPDT flat toggle SE0114	\$3.30	\$3.00
toggle/centre off SE0139	\$3.44	\$3.10
DPDT flat toggle spring return SE0140	\$4.75	\$4.50
SPDT subminiature momentary normally open. Rated at 0.5A/250VAC SE0204	\$1.60	\$1.50
SPDT miniature momentary snap acting. Rated at 0.4VA at 20V SE0210	\$2.95	\$2.75
SPDT alternate action with LED indicator. Square button. Rated at 3A/250VAC SE0280	\$4.50	\$4.35
SPDT momentary as for SE0280 SE0285	\$4.50	\$4.35

C&K pushbuttons

Several styles—same quality as the toggles above. Ratings vary.

SPDT subminiature momentary normally open. Rated at 0.5A/250VAC SE0204	\$1.60	\$1.50
SPDT miniature momentary snap acting. Rated at 0.4VA at 20V SE0210	\$2.95	\$2.75
SPDT alternate action with LED indicator. Square button. Rated at 3A/250VAC SE0280	\$4.50	\$4.35
SPDT momentary as for SE0280 SE0285	\$4.50	\$4.35

Economy switches

Where the performance and ultimate quality of the C&K switches isn't justified, these low priced switches are the go.

miniature toggles

All feature chrome plated toggles, plastic bodies and all mounting hardware. Contact rating 1.5A/240VAC (5A for SE0120).

DPDT heavy duty SE0120	\$1.75	\$1.60
4PDT SE0130	\$3.25	\$3.00
DPDT centre off SE0135	\$2.30	\$2.10
DPDT ultraminiature (rating 1.5A/240VAC) SE0143	\$1.50	\$1.35

standard size toggles

SPST 1.5A/240VAC SE0150	\$0.95	\$0.85
DPDT 1.5A/240VAC SE0153	\$1.50	\$1.40
DPDT Centre off SE0156	\$1.95	\$1.85
SPDT 12V illuminated SE0160	\$1.95	\$1.85
4PDT SE0175	\$1.50	\$1.35
Lever switch 3A/240VAC SE0190	\$2.75	\$2.60

Microswitch

SPDT 10A/240V lever actuation SE0925	\$2.50	\$2.35
--------------------------------------	--------	--------

Knife switch

DPDT As used by radio nuts for switching aerials SE0933	\$0.90	\$0.85
---	--------	--------

Panel lamps & bezels

Standard bezel with miniature 'lilliput' globes. 2 voltages, 2 colours all one price: 80c each 1-9 70c each 10 up

6V red SE3111

12V red SE3112

6V green SE3113

12V green SE3114

Miniature LED bezels

Beautiful miniature chrome bezels to dress up your project. Use resistor to adapt to most low DC voltages: for 6V use 220 ohm, 9V 390 ohm, 12V 560 ohm, 24V 1.2k (all 1/4 watt).

Red SE3126

Green SE3127

Both are \$1.00 each 1-9, 90c each 10 up

Miniature screw lamp base

MES with mounting lugs SE3283 \$0.49

Miniature globes

MES to suit SE3283 holder SE3209 \$0.40 \$0.35

MES to suit SE3283 holder SE3215 \$0.40 \$0.35

Lilliput globes to suit SE3111 etc. bezels

6.3V SE3239

12V SE3245

Both are 40c each 1-9 30c each 10 up

pushbutton

Miniature SPST normally open	SE0200	\$0.45	\$0.40
Miniature SPST normally closed	SE0202	\$0.60	\$0.50
DPDT alternate action	SE0215	\$2.25	\$2.00
DPDT momentary action	SE0229	\$2.25	\$2.00
SPST alternate action	SE0250	\$1.80	\$1.50
SPST momentary action	SE0252	\$1.80	\$1.40
4 way Isostat. Bank of four DPDT pushbuttons—interlocked	SE0275	\$4.40	\$4.20
DPDT alternate action similar to SE0275	SE0270	\$2.95	\$2.65
SPDT Mains. Suits replacement use in bedside lamps, desk lamps etc.	SE0290	\$0.95	\$0.90
240VAC/1A DPDT version of SE0290	SE0295	\$1.80	\$1.70
Doorbell push—rectangular surface mount	SE0300	\$2.50	
SPST footswitch—heavy duty	SE0310	\$3.95	\$3.60

Rotary switches

Standard models—ideal for signal and audio switching. Silver plated contacts. Positive spring-loaded action. All single gang.

Poles	Positions	Cat. No.
6	2	SE1504
4	3	SE1505
3	4	SE1506
2	5	SE1507
2	6	SE1508
1	12	SE1514

ALL ONE PRICE \$1.40 1-9 \$1.20 10 up

Special rotary switch

4 pole 4 position, 2 gang switch. Heavy current capacity makes it ideal for use as a speaker switch. Used in the MOSFET amplifier

Cat. No.	\$5.50
SE1512	
Value	
SE4703	
500mA	
SE4706	
1A	
SE4709	
2A	
SE4712	
3A	
SE4715	
5A	
SE4718	
3AG 32mm long × 6mm diameter.	
6mm diameter.	
7.5A	
10A	
15A	
20A	
100mA	
SE4730	
25A	
150mA	
SE4733	
30A	
SE4776	
35A	
SE4779	

Slide switches

Subminiature DPDT SE0400 \$0.40

DP3T SE0410 \$0.80

Standard size DPDT SE0415 \$0.60

Rocker switch DPDT 240V inbuilt neon with resistor SE0509 \$2.20

4PDT SE0509 \$2.20

4PDT 240V 10 up

Value Cat. No. The following are 15c each 1-9 10c each 10 up

250mA SE4736

350mA SE4739

500mA SE4751

750mA SE4742

1.5A SE4745

2A SE4748

3A SE4751

5A SE4754

7.5A SE4757

10A SE4763

15A SE4766

20A SE4770

25A SE4773

30A SE4776

35A SE4779

40A SE4782

45A SE4785

50A SE4788

60A SE4791

70A SE4794

80A SE4797

90A SE4800

100A SE4803

120A SE4806

150A SE4809

200A SE4812

250A SE4815

300A SE4818

350A SE4821

400A SE4824

450A SE4827

500A SE4830

600A SE4833

700A SE4836

800A SE4839

900A SE4842

1000A SE4845

1200A SE4848

1500A SE4851

2000A SE4854

2500A SE4857

3000A SE4860

3500A SE4863

4000A SE4866

4500A SE4869

5000A SE4872

6000A SE4875

7000A SE4878

8000A SE4871

9000A SE4874

10000A SE4877

12000A SE4880

15000A SE4883

20000A SE4886

25000A SE4889

30000A SE4892

35000A SE4895

40000A SE4898

45000A SE4901

50000A SE4904

60000A SE4907

70000A SE4910

80000A SE4913

90000A SE4916

100000A SE4919

120000A SE4922

150000A SE4925

200000A SE4928

250000A SE4931

300000A SE4934

350000A SE4937

400000A SE4940

450000A SE4943

500000A SE4946

600000A SE4949

700000A SE4952

800000A SE4955

900000A SE4958

1000000A SE4961

1200000A SE4964

1500000A SE4967

2000000A SE4971

2500000A SE4974

3000000A SE4977

3500000A SE4980

4000000A SE4983

4500000A SE4986

5000000A SE4989

6000000A SE4994

7000000A SE4997

8000000A SE5000

9000000A SE5003

10000000A SE5006

12000000A SE5009

15000000A SE5012

20000000A SE5015

25000000A SE5018

30000000A SE5021

35000000A SE5024

40000000A SE5027

Electrolytics

Top quality electrolytic capacitors—in values to suit virtually any project. If the value you want isn't here, remember that electrolytics are very broad tolerance devices—so a value as much as 50% higher will usually work perfectly well. For really large values, simply connect electrolytics in parallel (making sure that the polarities match up).

axial

Cat. No.	Value in μ F	Working Voltage	Price 1-9	Price 10 up
RES005	0.47	63	28c	23c
RES010	1	350	28c	23c
RES020	2.2	63	28c	23c
RES030	3.3	25	28c	23c
RES040	4.7	25	28c	23c
RES050	4.7	63	28c	23c
RES055	4.7	500	55c	50c
RES060	8	500	72c	67c
RES065	10	16	28c	23c
RES075	10	63	28c	23c
RES080	16	500	\$1.10	\$1.05
RES085	24	350	95c	75c
RES090	24	500	\$1.10	\$1.00
RES095	25	25	28c	23c
RES100	25	63	35c	33c
RES104	33	350	\$1.10	\$1.00
RES108	33	500	\$1.30	\$1.20
RES115	47	16	28c	23c
RES120	47	25	32c	28c
RES125	47	63	35c	33c
RES130	47	350	\$1.10	\$1.00
RES135	100	10	35c	30c
RES140	100	25	35c	30c
RES145	100	63	42c	40c
RES150	100	350	\$1.85	\$1.60
RES155	220	16	52c	42c
RES160	220	25	84c	72c
RES165	220	63	95c	85c
RES170	470	16	79c	73c
RES175	470	63	\$1.30	\$1.00
RES180	640	16	85c	75c
RES185	1000	16	95c	85c
RES190	1000	25	\$1.10	\$1.00
RES195	1000	35	\$1.30	\$1.20
RES200	1000	63	\$1.75	\$1.55
RES205	2500	16	\$1.20	\$1.10
RES210	2500	25	\$1.70	\$1.50
RES215	2500	35	\$1.85	\$1.70
RES220	2500	50	\$2.40	\$2.30
RES225	4700	35	\$2.75	\$2.55

RB (single ended PC mount)

RES415	0.47	63	20c	18c
RES420	1	63	20c	18c
RES425	2.2	25	20c	18c
RES430	3.3	16	20c	18c
RES435	4.7	25	20c	18c
RES440	10	16	20c	18c
RES445	10	25	22c	19c
RES450	25	25	24c	22c
RES455	33	10	24c	22c
RES460	33	35	28c	23c
RES465	33	50	30c	28c
RES470	47	35	28c	23c
RES475	47	63	35c	30c
RES480	100	16	28c	23c
RES485	100	25	28c	23c
RES490	100	63	60c	50c
RES495	220	16	60c	55c
RES500	220	25	70c	65c
RES505	330	25	75c	67c
RES510	470	16	63c	55c
RES515	470	25	75c	65c
RES520	640	16	75c	65c
RES525	1000	16	55c	45c
RES530	1000	25	80c	70c
RES535	2200	25	\$1.30	\$1.10
RES5615	5600	40	\$4.20	\$3.30
RES525	2500	80	\$4.25	\$4.25

Can

RES5600	1000	100	\$3.45	\$3.25
RES5610	4000	75	\$6.90	\$6.20
RES5620	8000	75	\$9.00	\$8.50

bipolar

RES5705	2.2	50	55c	45c
RES5710	4.7	50	55c	45c
RES5715	6.8	50	55c	45c
RES5720	10	50	55c	45c
RES5725	22	50	55c	45c
RES5730	47	50	75c	65c

Tuners & Trimmers

Cat. RE2986	Mica trimmer			
15-115pF	\$1.95	1-9	\$1.70	10 up
Cat. RE2992	Ceramic trimmer			
10-60pF	80c	each		
Cat. RE2994	Ceramic trimmer			
10-40pF	65c	each		
Cat. RE2996	Mini tuning cap.			
60/160pF	\$1.50	1-9	\$1.00	10 up
Cat. RE2998	Tuning gang			
10-415pF	\$7.50	1-9	\$7.20	10 up

Quality Wire and Cable

Light Duty 10 x 0.12mm

Very flexible hookup wire is ideal for the hobbyist. Available in 12 colours.

Cat.	Colour	WE6425	Purple
WE6417	Red	WE6426	Blue
WE6419	Black	WE6427	Grey
WE6420	Brown	WE6428	Cream
WE6421	Orange	WE6429	White
WE6422	Yellow	WE6429	White
WE6423	Green	10c/metre	
WE6424	Dark Blue	6c/metre	100m or more

Medium Duty 10 x 0.254mm

Slightly heavier than the above

WE6437	Red	15c/metre
WE6439	Black	12c/metre

Heavy Duty 24 x 0.20mm

Ideal where heavy currents are involved.

Rated for 240V AC at 7.5Amps.

Cat.	Colour	WE6457	Red
WE6458	Black	WE6459	Black
WE6461	Green	17c/metre	100m or more

Super Heavy Duty 32 x 0.20mm

For Very Heavy Current applications.

Rated at 240V AC at 10Amps.

Cat.	Colour	WE2280	Brown
WE2282	Blue	WE2283	25c/metre

Auto Cable 4mm

Fantastically Heavy cable for wiring on your car. Don't lose those volts down the wires!

Cat.	Colour	WE6487	Yellow
WE6489	Grey	40c/metre	100m or more

Stranded Earth Wire

Ideal for earthing your transmitter or receiver.

Many strands make light work!

Cat.	WE7219
40c/metre	35c/metre

35c/metre 100m or more

Flexible Speaker Cable

Ideal for connecting amplifiers to speakers or for connecting intercoms. Has twin insulated conductors with trace for keeping correct polarity.

Cat.	WE6207
15c/metre	12c/metre

12c/metre 100m or more.

Twin Core Mains Cable

Suitable for extending mains powered lighting. Also ideal for long runs between Amplifier and speakers. Rated for 240V AC at 7.5Amps.

Cat.	WE6217
Grey with trace	30c/metre

25c/metre 100m or more.

Cat.	WE6219
White	25c/metre

30c/metre 100m or more.

Shielded Audio Cables

Single Conductor

Ideal for internal audio wiring of amplifiers, patch leads, audio connecting cables.

Cat.	WE6227
30c/metre	25c/metre

25c/metre 100m or more.

Twin Conductor

Two insulated, shielded wires. Common external shield and plastic insulation. Suitable for stereo patch leads, internal amplifier wiring.

Cat.	WE6231
50c/metre	45c/metre

45c/metre 100m or more.

Figure Eight Twin Conductor

Two separate shielded and screened conductors, joined in a figure eight pattern. Ideal for stereo patch leads, interconnecting stereo equipment.

Cat.	WE6233
50c/metre	45c/metre

45c/metre 100m or more.

Heavy Duty Twin Conductor

Two separate shielded and insulated conductors with strong rubberized outer covering. Ideal for microphone cables or anywhere that cables will get rough handling.

Even Rock Musicians have trouble breaking it!

Cat.	WE6234
75c/metre	65c/metre

65c/metre 100m or more.

Four Conductor

Has four individual shielded conductors with an overall plastic insulating cover. Ideal for tape record/replay leads using DIN plugs, or wherever DIN plugs are used.

Cat.	WE6237
1.95	1.20

1.20 metre 100m or more.

Enamelled winding wire

For RF chokes and coils, speaker crossover chokes—any coil winding use.

The following sizes are all sold as 100g rolls. All one price:

\$2.95 per roll

Size	Cat. No.
16B&S/1.25mm	WE7313
18B&S/1mm	WE7315
20B&S/0.8mm	WE7317
22B&S/0.63mm	WE7319

The following sizes are all on 25g rolls. All one price:

\$1.95 per roll

24B&S/0.5mm	WE7321

<tbl_r cells="2" ix

Semiconductors

Transistors

Small signal

Description	Cat.No.	Price 1-9	Price 10 up
AC126 (AC125)	ZE0049	0.95	0.80
AC127	ZE0057	0.95	0.80
AC128	ZE0058	0.95	0.80
AC187	ZE0075	0.80	0.70
AC188	ZE0077	0.95	0.80
BC327	ZE0167	0.36	0.32
BC328	ZE0169	0.36	0.32
BC337	ZE0173	0.45	0.42
BC338	ZE0174	0.36	0.32
BC547 (BC107)	ZE0205	0.14	
BC548 (BC108)	ZE0213	0.14	
BC549 (BC109)	ZE0224	0.14	
BC549C	ZE0234	0.34	
BC550 (BC547B)	ZE0236	0.40	0.35
BC556	ZE0240	0.40	0.35
BC557 (BC177)	ZE0245	0.17	
BC558 (BC178)	ZE0253	0.17	
BC559 (BC179)	ZE0264	0.17	
OC44	ZE0727	0.95	
OC71 (OC70)	ZE0736	0.75	
2N3563	ZE0977	0.30	
2N4250	ZE0980	0.48	
2N4258	ZE0984	0.38	

RF small signal

	Cat.No.	Price
BCY71	ZE0136	0.95
BF115	ZE0369	0.75
BF199 (BF173)	ZE0389	0.89
BF180	ZE0407	0.73
BF469	ZE0445	1.20
BF470	ZE0445	1.20
BF494	ZE0487	0.49

Driver transistors

	Cat.No.	Price
BC639	ZE0293	0.34
BC640	ZE0294	0.34
BD139	ZE0340	0.55
BD140	ZE0341	0.55
BD682 (BD262)	ZE0357	1.26
BD681 (BD263)	ZE0359	1.26
MJE340	ZE0653	2.20
MJE350	ZE0656	2.50
TIP31B	ZE0824	0.79
TIP31C	ZE0826	1.30
TIP32B	ZE0828	0.79
TT800 (2N3040)	ZE0868	0.89
TT801 (2N3019)	ZE0872	0.89
2N3053	ZE0927	0.53

Power output

	Cat.No.	Price
AD161	ZE0080	1.65
AD162	ZE0082	1.75
BDV64B	ZE0363	4.25
BDV65B	ZE0364	4.25
MJ2955	ZE0610	1.50
2N3055 (Motor.)	ZE0615	1.50
M15003	ZE0630	5.00
M15004	ZE0635	5.00
MJE2955 (TIP2955)	ZE0809	1.25
MJE3055 (TIP3055)	ZE0812	1.25
2N3055	ZE0942	0.83
BUX80 (MJ413)	ZE0947	7.50
OC26 (AD149)	ZE0725	2.75

RF/CB replacement

	Cat.No.	Price
2SC1096	ZE0993	1.50
2SC1306 (2166)	ZE0995	4.50
2SC1307 (1969)	ZE0997	6.50

Small signal FETs

	Cat.No.	Price
MPF102	ZE0664	0.59
2N4342	ZE0665	1.18
MPF105/2N5459	ZE0670	0.58
MPF106/2N5485	ZE0672	0.58
MPF131/MFE131	ZE0680	1.20

Power FETs

	Cat.No.	Price
2SK149	ZE0647	7.50
2SK134	ZE0649	7.50
VN88AF	ZE0684	3.20

Unjunctions

	Cat.No.	Price
2N6027 (D13T1)	ZE0550	0.59
2N2646	ZE0560	0.95

LEDs

	Cat.No.	Price
3mm red	ZE1811	0.20
3mm green	ZE1819	0.28
3mm yellow	ZE1821	0.28
5mm red	ZE1832	0.16
5mm green	ZE1836	0.28
5mm yellow	ZE1840	0.34
5mm orange	ZE1844	0.34
5mm clear	ZE1846	0.55
Rect. red	ZE1850	0.40
Rect. green	ZE1854	0.40
Rect. yellow	ZE1856	0.40
Flashing red	ZE1801	1.50
Infra-red	ZE0755	1.50

7 segment LED displays

	Cat.No.	Price
DL707 (LT302)	ZE1886	1.20
LT303	ZE1880	1.50
DL704	ZE1883	2.30
DL747	ZE1889	3.48
FND500	ZE1891	1.35

Diodes

Small signal

	Cat.No.	Price
OA90	ZE1439	0.18
OA91	ZE1451	0.12
OA95	ZE1459	0.18
BA100	ZE1469	0.34
BA102 (BB119)	ZE1479	0.43
OA202	ZE1489	0.34
1N914 (IN4148)	ZE1500	0.05
5082-2800	ZE1540	2.88
OA47	ZE1545	0.38

Power/rectifier

	Cat.No.	Price
EM401 (IN4002)	ZE1505	0.06
EM404 (IN4004)	ZE1510	0.08
EM410 (IN4007)	ZE1515	0.14
1N5404	ZE1523	0.38
1N5408	ZE1526	0.43
10A/400V Stud	ZE1550	1.95
BYX21L/200	ZE1555	1.90
BYX21L/200R	ZE1557	1.60

Bridges

	Cat.No.	Price
400V/1.5A	ZE1560	0.85
400V/40A	ZE1565	4.50

Zeners all 1W 29c each

Voltage	Cat.No.	Price
3.3	ZE1653	10
3.6	ZE1655	11
3.9	ZE1657	12
4.3	ZE1659	13
4.7	ZE1661	14
5.1	ZE1663	15
5.6	ZE1665	16
6.2	ZE1667	17
6.8	ZE1669	18
7.5	ZE1671	19
8.2	ZE1673	20
9.1	ZE1675	21

2W \$1.00 each

	Cat.No.	Price
ZE1706	ZE1706	62
ZE1715	ZE1715	75

Thyristors

SCRs

	Cat.No.	Price
C103D	ZE1930	1.38
C106Y1	ZE1940	0.48
C106D1	ZE1950	0.85
C122D	ZE1960	1.28
C122E	ZE1970	1.58
C164D	ZE1980	3.25
C168D	ZE1983	4.95

Triacs

	Cat.No.	Price
SC141D (6A)	ZE1991	1.28
SC151D (15A)	ZE1997	2.75

Trigger

	Cat.No.	Price
ST4	ZE1999	0.50

Opto

	Cat.No.	Price
BFR84	ZE0494	2.40
MEL12 photo darl.	ZE0747	0.95
BPW50 photodiode	ZE0751	3.50
TIL31 phototrans.	ZE0753	2.40
TIL81 phototrans.	ZE0754	3.20
CQY89A IR LED	ZE0755	1.50
ORP12 LDR	ZE2005	1.95
4N28/4N25 opto-coupler	ZE2010	1.08

Digital ICs

TTL 74 series

	Cat.No.	Price
74LS00	ZE2100	0.35
74LS01	ZE2101	0.28
74LS02	ZE2102	0.23
74LS04	ZE2104	0.40
74LS08	ZE2108	0.28
74LS10	ZE2110	0.23
74LS20	ZE2120	0.35
74LS30	ZE2130	0.28
74LS73	ZE2173	0.65
74LS74	ZE2174	0.55
74LS76	ZE2176	0.42
74LS80	ZE2190	0.75
74LS90	ZE2192	1.25
74LS92	ZE2193	0.94
74LS95	ZE2195	0.80
74LS123	ZE2197	1.15
74LS367	ZE2267	1.95
74C00	ZE2600	0.34
74C14 (4584B)	ZE2614	1.75
74C30	ZE2630	0.70
74C38	ZE2685	1.45
74C48	ZE2648	2.86
74C92	ZE2926	6.50
74C95	ZE2935	0.73
74D21	ZE2421	0.75
74D23	ZE2423	0.74
74D91	ZE2491	1.36
74F91	ZE2491	0.73
74F92	ZE2492	0.62
74F93	ZE2493	0.56
74F95	ZE2495	0

COMPUTER

EA's Microprocessors & Personal Computers

A detailed overview of microprocessors and personal computers, including full details of EA's Dream 6800 computer and reviews of many commercial personal computers. 112 pages soft cover.

Cat. BE7050.....\$5.00

ETI's Computers

A really comprehensive overview of microcomputers. Covers buying a microcomputer, reviews of most popular brands, constructing your own \$100 computer, an introduction to BASIC, a computer glossary and a small computers market guide. A must for anyone contemplating the purchase of a microcomputer. 154 pages soft cover.

BE6050.....\$4.95

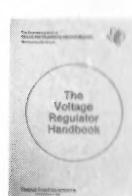
Binders

Keep your magazines organised with these quality vinyl binders. Simple wire holding system. Each holds 12 magazines.

Cat. BE4045.....\$4.95

Magazines

We always have the latest issues of Electronics Australia and Electronics Today in stock.



Thermistor

R53 3mW 5k nominal at 20°C as used in oscillator projects—essential for precision temperature compensation.

\$6.95 each

Cat. No. RE1190

Valves

1S2/DY86

6AL3/EY88

6AL5

6AU6

6BA6

6BL8/ECF80

6BM8

6BQ5

6CA7/EL34

6CM5/EL36

6ES8

6GV8

6GW8

6X4

12AT7/ECC81

12AU7A

12AX7/ECC83

12BY7A

Cat. No. RE1190

5" 15MHz

130BXB11

</div

INDEX.

A	AC Bridge.....	19
	Adhesives.....	11
	Aerials see Antennas.....	
	Alarms & Accessories.....	23
	Alarms—car kit.....	6
	Alignment tools.....	18
	Alkaline batteries.....	22
	Allen keys.....	18
	Alligator clips.....	11
	Amplifiers hi-fi.....	11
	—kit hi-fi.....	2, 5
	—modules.....	11
	Antennas	
	—TV, FM.....	23
	—Car radio.....	10
	—Telescopic.....	24
	—Marine communications.....	20
	—CB: UHF & 27MHz.....	21
	Antenna switches.....	27
	Antenna bases.....	20
	Antenna accessories CB.....	20
	Antenna rods & coils.....	20
	Audio adaptors.....	11
	Audio cables.....	11, 29
	Audio chokes.....	20
	Audio connectors.....	26
	Audio generators.....	7, 19
	Audio kits.....	2, 5, 9
B	Baluns & formers.....	23
	Barrel switch.....	23
	Banana plug.....	26
	Batten holder.....	27
	Batteries	
	Battery chargers.....	22
	Battery eliminators.....	22
	Battery holders & snaps.....	22
	Bells.....	23
	Bezel.....	27
	Billwick.....	18
	Binders.....	31
	Bits, drill.....	11
	BNC connectors.....	26
	Boards, circuit.....	10, 24
	Bolts.....	24
	Books.....	31
	Boxes.....	24
	Box, tool.....	24
	Breadboard.....	26
	Bridge, AC.....	19
	Bridge rectifier.....	30
	Bullet connector.....	26
	Buzzers.....	23
C	Cables	
	—Audio.....	11
	—CB.....	20
	—TV.....	23, 29
	Cable ties & clamps.....	24
	Cabinets	
	—special project.....	10
	Calculators.....	21
	Cannon connectors.....	26
	Capacitors.....	28
	Car	
	—speakers.....	10
	—antennas.....	10
	—leads.....	10
	—stereo accessories.....	10
	—suppressors.....	10
	—car kits.....	2, 6
	—wire.....	29
	—relays.....	27
	wiring connectors.....	10, 26
	voltage converters.....	22
	battery clips.....	29
	battery charge.....	22
	Cartridges, crystal & magnetic.....	11
	Cases.....	24
	Cassettes, blank.....	11, 21
	Cassette deck.....	31
	Cathode ray tube.....	31
	CBs.....	20
	CB antennas & accessories.....	20, 21
	Ceramic capacitors.....	28
	Chargers, battery.....	22
	Chassis tools.....	18
	Chokes, audio.....	20
	Chokes, RF.....	20
	Circuit boards.....	24
	Cleaners.....	18
	CRC.....	18
	Contact Cleaner.....	18
	Cliplights.....	24
	CMOS.....	30
	Coaxial cable.....	29
	Coil formers.....	17
	Colour organs.....	2, 9
	Comparators.....	30
	Computer hardware & software.....	21
	Computer cassettes.....	21
	Computer connectors.....	26
	Contact connectors.....	26
	Converters, car voltage.....	22
	Crimpers.....	18
	Crocodile clips.....	11
	CROs.....	19
	Crossovers.....	16
	CRTs.....	31
	Crystals.....	10
	Crystal sockets.....	26
	Cutters.....	18
D	Dalo pen.....	18
	DC-DC converters.....	22
	D' connectors.....	26
	Demagnetizer.....	11
	Desoldering tools.....	18
	Desoldering braid.....	18
	Diallers.....	20
	Dials.....	25
E	Dial cord.....	25
	Digital ICs.....	30
	Digital multimeters.....	19
	DIN Plugs.....	26
	Diodes.....	30
	Dimmers.....	20
	DIP plugs.....	26
	DIP sockets.....	26
	DIP switches.....	27
	Diskettes.....	21
	Displays.....	30
	Doorchime kit.....	8
	Double adaptor.....	26
	Drills & bits.....	11
	Dustbugs.....	11
F	Earpieces.....	20
	Earpieces	
	Earphones.....	11, 20
	Earth wire.....	29
	Egg insulators.....	20
	Electrical tape.....	18
	Electrolube.....	18
	Electrolytic capacitors.....	28
	Engine analyser kit.....	2
	Etching kit.....	24
	Etching transfers.....	24
	Edge meters.....	19
	EZ hooks.....	25
G	Faders.....	17
	Fans.....	10
	Feedthrough capacitors.....	29
	Feet, rubber.....	24
	Ferric chloride.....	24
	Ferrite rods, cores, beads.....	20
	FETs.....	30
	Filters.....	10
	Flashlubes.....	27
	Floodlights.....	27
	Floppy disks.....	21
	Formers, coil & potcore.....	20
	FM antennas.....	23
	FM tuner.....	11
	Freeze-it.....	18
	Friction tape.....	18
	Fuses & holders.....	27
H	General information.....	3
	Globes.....	27
	Glue.....	18
	Greencaps.....	28
	Grid dip oscillator.....	9
	Grille cloth.....	13
	Grilles, speaker.....	10
	Grommets.....	24
I	Hammer.....	24
	Hardware	
	Head cleaners.....	10
	Headphones.....	11
	Heatshrink tubing.....	29
	Heatsinks.....	25
	Heatsink clamps.....	18
	Heatsink compound.....	18
	Heostats.....	18
	Hex keys.....	18
	Hi-fi equipment.....	11
	Hi-fi speakers.....	12, 17
	Hole cutters.....	18
	Home alarms.....	23
	Hookup wire.....	29
	Horn speakers.....	10
	Horn tweeters.....	15
	Horn relays.....	27
J	ICs.....	30
	IC inserting tool.....	18
	IC sockets.....	26
	IC test clips.....	19
	IF transformers.....	21
	Ignition system kit.....	2, 6
	Indoor TV antennas.....	23
	Infra-red remote control.....	9
	Indicators.....	27
	Innombok.....	17
	Instruments.....	9, 19
	Insulated tubing.....	29
	Insulating tape.....	18
	Insulators, egg.....	20
	Intercoms.....	10
	Integrated circuits.....	30
	Irons, soldering.....	18
K	Jacks.....	26
L	Key switch.....	23
	Kits	
	—Audio.....	2, 4, 5
	—Automotive.....	6
	—Computer.....	8
	—Fun kits.....	8
	—Beginners'.....	8
	—Test equipment.....	7
	—Household.....	8
	—Metal detectors.....	2, 8
	—Lighting effects.....	2, 9
	—Special parts.....	10
	Knife switch.....	27
	Knives.....	18
	Knobs.....	25
M	Lacquer.....	18
	Lamps	
	—audio.....	11
	Leads, test.....	25
	LDRs.....	30
	LEDs.....	30
N	LED holders.....	24
	Lettering.....	18
	Level meters, kit.....	5
	Level switch.....	27
	Light dimmers.....	20
	Logic probe.....	19
	L-pads.....	17
	Lubricants.....	18
	Lugs.....	26
O	Magnets.....	23
	Mail order form.....	4
	Mail order information.....	3
	Mains terminal block.....	26
	Mains cable.....	29
	Mains plugs & sockets.....	26
	Marine antenna.....	20
	Masthead amp kit.....	9
	Matrix board.....	29
	Matrix pins & sockets.....	29
	Memories.....	30
	Mercury switch.....	27
	Metal detector kit.....	2, 9
	Metal film resistor.....	28
	Meters, panel.....	19
	Meters, SWR.....	9
	Microphones.....	20
	Microphone connectors.....	26
	Microphone cable.....	29
	Microswitch.....	27
	Miniature tools.....	18
	Mixer kits.....	5
	Modulator, video.....	10
	Molex pins.....	26
	Monitor, video.....	21
	Mounts, TV antenna.....	23
	Multilay connectors.....	26
	Musicolor.....	2, 9
	Multimeters.....	19
	Multimeter leads.....	19, 25
P	Neons.....	27
	NiCad batteries.....	22
	NiCad chargers.....	22
	Nuts & bolts.....	24
R	Octoplus connectors.....	26
	Op amps.....	30
	Opto devices.....	30
	Oscillator	
	—kit.....	9
	Oscillator kit.....	9
	Oscilloscopes.....	19
	Organ kit.....	8
S	Paint.....	18
	Panel lamps.....	27
	Panel meters.....	19
	Panels, project.....	10
	PC boards, project.....	24
	PC drills.....	11
	PC etching materials.....	29
	PC lacquer.....	18, 29
	PC edge connectors.....	26
	PCB pen.....	18
	PC pins.....	24
	Pegboard hook.....	11
	Phillips screwdriver.....	18
	Phone dialer, pushbutton.....	20
	pH meter kit.....	7
	pH probe.....	7
	Photocells.....	30
	Piezo alarms.....	23
	Plastic tubing.....	29
	PL259 connectors.....	26
	Pliers.....	18
	Plugpacks.....	22
	Plugs & sockets.....	26
	Potcores.....	20
	Potentiometers.....	28
	Polycarbonate capacitors.....	28
	Polystyrene capacitors.....	28
	Power cable.....	29
	Power supplies.....	22
	Preamp kits.....	5
	Preamp modules.....	11
	Pressure mat.....	23
	Probe, pH.....	7
	Pushbutton switches.....	27
T	Radar module.....	23
	Rainbow cable.....	29
	RAM ICs.....	30
	RCA connectors.....	26
	RC bridge.....	19
	Reamer.....	18
	Rechargeable batteries.....	22
	Record maintenance.....	22
	Rectifiers.....	30
	Reed switches.....	23
	Reed relays.....	27
	Regulator ICs.....	30
	Relays.....	27
	Relay sockets.....	27
	Resin.....	29
	Resistance wire.....	29
	Resistors.....	28
	Resistor mounting strip.....	29
	RF chokes.....	20
	RF connectors.....	26
	Ribbon cable.....	29
	Rocker switches.....	27
	Rotary switches.....	27
	Rub-on lettering.....	11
	Rulers.....	24
U	UHF CB & antennas.....	20
	UHF TV antennas.....	23
	UHF connectors.....	26
	Ultrasonic transducers.....	23
	Unjunction transistors.....	30
	Utillux connectors.....	26
V	Valves.....	31
	Variable capacitors.....	29
	Velcro.....	17
	Vernier.....	25
	Veroboard.....	29
	VHF TV antennas.....	23
	Video game.....	20
	Video modulator.....	10
	Video monitor.....	21
W	Walkie talkies.....	21
	Washers.....	24
	Watch batteries.....	22
	Winding wire.....	29
	Wire & cable.....	29
	Wire strippers.....	18
	Wirewound pots.....	28
	Wirewrap tools.....	18
	Wirewrap wire.....	29
XY	Xenon flash tube.....	27
	Zener diodes.....	30